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Map
OF THE
PROVINCE OF RIO DE JANEIRO,
PRINCIPALLY according to
THE MAPS AND OBSERVATIONS OF
Compiled by
R. MARKHAM.
EXPLANATION OF SIGNS AND ABBREVIATIONS

TRAVELS

OF

HIS ROYAL HIGHNESS

PRINCE ADALBERT OF PRUSSIA,

IN

THE SOUTH OF EUROPE AND IN BRAZIL,

WITH A VOYAGE UP THE AMAZON AND THE XINGU.

Translated by

SIR ROBERT H. SCHOMBURGK

AND

JOHN EDWARD TAYLOR.

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AN EXCURSION

TO THE

BANKS OF THE PARAHYBA.

SEPTEMBER 27th.—In planning our excursion through the province of Rio de Janeiro, our intention had been to cross over to Praya Grande in the first steamboat; and with this view we drove into the town at half-past five o'clock this morning, but unfortunately arrived at the *embarcadère* just at the moment when the vessel had left the shore. We therefore engaged a feluga, a large open boat with two lateen sails and six black rowers, which in a short time landed us on the eastern shore of the bay. On our way we passed two English packets, a fine brig the 'Crane,' and a handsome schooner the 'Spider,' both carrying six guns; the 'John' was also just getting under sail. The view from Praya Grande over the bay to Rio, which lay before us in its whole extent, was wonderfully fine. The

long line of houses is agreeably broken by the rising ground of Gloria, the Signal-hill, and the high Ilha das Cobras, before which two ships of the line and the British Commodore's frigate rode majestically upon the waves, while the misty blue mountain-chain of the Corcovado and the Tijuca, with its noble outlines, formed a magnificent background.

It was eight o'clock when our small party, consisting of four gentlemen and two servants, left Praya Grande, some on horseback and some on mules. Two Arrieiros headed the caravan with two beasts of burden, and a reserve mule, together with two horses which they intended to sell on their own account at Campos. With the exception of my own active grey nag—which I called the "Botocudo"—we were wretchedly mounted. The beasts were lean and jaded, and promised ill enough; nevertheless they stood the fatigues of the journey better than we expected. Count Bismark rode a superannuated mule, Mr. Theremin and one of the Arrieiros were similarly mounted, while Count Oriolla, the two servants, and the other Arrieiro had given the preference to horses. Our caravan thus consisted altogether of thirteen beasts.

The road, for the most part lined by hedges, followed at first the shores of the bay, turning afterwards eastward into the wooded hilly country. The form of these hills is rounded, and the copse-wood, intermingled with a few palm-trees, bears the decided character of a thick capueira. The land is principally cultivated with bananas, maize, and mandioca, with occasionally considerable tracts of meadows: villages, or *aldeas*, are

scattered about, and we passed on our way single vendas at different intervals. The day was fair, yet not free from that white mist which, since our arrival at Rio, almost without intermission alternated with rainy weather. To-day it also enveloped the Orgãos, which, though only at a short distance, could scarcely be recognized. The sumpter-mule (*carga*) and the frisky steeds of the Arrieiros tried our patience to the utmost, every few minutes breaking through the hedges and running into the meadows, turning into the vendas, or dashing along the rivulets at full gallop, and resisting all our attempts to bring them back to the proper road by violent kicking. The mules showed their natural cunning in these freaks, employing stratagem where the horse uses violence, and for this reason they are not to be trusted: after walking on before a person as quietly as a lamb for a whole hour, the mule will suddenly, in the most unaccountable way, take it into its head to begin kicking with might and main.

The terrain opened gradually. We crossed the broad stream of the Rio de Alcantara by a bridge, from each side of which is an interesting view over the river, meandering among shrubs intermixed with palm-trees. Close to the bridge, on the other side, stood a venda in the capueira, at the foot of a hill covered with bushes, which, with a few houses partly concealed among the copse, is known by the name of Alcantara. Here we dismounted and took a plain meal, neatly served, while our beasts were fed on capim, a kind of grass, and milho or maize.

We arrived at this spot at twelve o'clock, and started again at two. The country now became more flat, and the capueira attained by degrees a greater height, until it was succeeded by a forest, bearing the name of "Mato do Gamba;" an occasional glance between the trunks of the high trees showed that the country was still in parts hilly, and the outlines of the Serra dos Orgãos were dimly seen from time to time on our left. There were great numbers of beautiful palms, and lofty trees with large leafy crowns. The high-road had ceased at the Rio Alcantara, and we now followed a footpath, which was frequently crossed by fences. The roads in Brazil are usually constructed in the following manner:—a person, on establishing a "Fazenda,"* makes a communication between it and his neighbour's by a footpath, or *picada*: a series of these ultimately form a highway, which is in general merely a small path, although called by the pompous name of estrada, or estrada real. These fences are peculiar to the country; they do not always form part of the enclosure of a fazenda, but are often constructed by the Tropeiros or mule-drivers. The trains of mules bivouac by the wayside, or upon the *estrada* itself, and the drivers close the path by these fences to prevent their beasts running away; the thick capueira forms the remaining part of the enclosure.

On emerging toward evening from the wood, which was enlivened by some fiery "Tié-fogos," we saw before us two undulating ridges of hills, and upon the furthest

* A *Fazenda* is properly a farm or estate, with a house attached to it: in the following pages it denotes a sugar or coffee estate.

the village of S. João do Itaborahy, which we reached at six o'clock, just before dark. It consists of a square, with a few short streets; the church stands in the former, near which we dismounted at a venda or inn, in a narrow lane. The prospect from the church commands the whole country around,—parallel ridges of hills, extending to the horizon.

September 28th.—While taking our coffee this morning, we were amused by watching a young equilibrist, who was on his way to Rio, making his toilet,—the two most interesting moments being those when the little fellow anointed his hair carefully with butter, and then stepped into his large jack-boots, which gave him just the air of a puss-in-boots.

We mounted our horses at seven o'clock, and entered the capueira: the weather was unsettled, and we desired one of our Arrieiros to follow us with the sumpter mules, intending ourselves to proceed at a quicker pace, so as to arrive betimes in the evening. A journey of twelve leagues was before us, and we had been able on the previous day to accomplish only eight. Before we had gone far it began to rain, which gave my companions, the two Counts, a very picturesque appearance, in their ponchos lined with scarlet; their brown faces, with large beards and black hair, were set off by broad-brimmed, grey, Marseilles hats, which had attracted general attention in all the Spanish alamedas, from their resemblance to the hats of the Picadores: add to this the large boots, *à la* Wallenstein, of rough veado leather, with clumsy spurs, and the picture of my

two youthful companions is complete. Mr. Theremin also accompanied me, who was distinguished by his large Chili straw-hat, wrapt in the blue cloak of a civilian, and wearing jack-boots with the tops pulled up. I was the only one of the party, except the two servants, who carried a gun slung at my back, with a cartridge-box round my waist. I had stowed away my little blue steel *facão*, which was of no service in cutting our way through the forest, in the small portmanteau that contained all my things. Our Arrieiro proposed that we should pass through Porto das Caixas, as it was not out of our way *; and I hailed this suggestion, in the hope of being able to procure there a piece of oilcloth, to protect from the rain my blue jacket—one of my chief treasures, for which there was no room in the portmanteau.

Passing through a flat, marshy tract, between hedges and bushes, extending over the Campos of Marabu, we arrived at the small harbour of Porto das Caixas. As we rode through this place the rain fell in torrents, and the horses slipped on the clayey soil, or sunk into the mud, which bespattered our Minciros boots. A few large open boats, roofed-in near the stern, were lying in the small river of Macacú, which falls into the bay of Rio near this spot; these, and a number of large vendas, bespoke the active commerce carried on at Porto das Caixas. The venda, I may observe, is a shop as well as an inn: we passed none without enquiring for oil-cloth, and the last one in the village excited my hopes, but alas! only to

* This is not correct, as the road to Santa Anna through Porto das Caixas is a league and a quarter further than the direct route.

disappoint them when we approached. One of my companions however afterwards gave me a piece.

Since leaving S. João de Itaborahy, the road had been for the most part a broad carriage-way. We continued along this, over the flat capueira, and it afterwards formed a kind of dam across a broad morass, in which grew numerous plants of the papyrus. At the end of this dam, which was crossed by several trenches bridged over, the little village of Macacú lay upon a raised ground, shaded by palms and underwood: behind it, the capueira is succeeded by plantations. We continually passed enclosures, and observed several encampments of Tropas: the mules were tied to tall stakes, and the Tropeiros had formed a square heap of the saddles and wicker baskets containing the coffee. These were covered with skins, extending beyond on one side, which, supported by poles, formed a hut for the half-naked people; on the journey, the skins serve to cover the merchandize. In front of this tent were piled three poles, from which hung the kettle over a fire. These people, who are mostly slaves, negroes and mulattos, with occasionally Indians, require no greater comforts.

The country now gradually became more open, and we traversed extensive plains, bounded by rising ground. One meadow in particular attracted my attention, surrounded with trees, and covered with large blossoms resembling the white *Vinca*; while upon the marshy ground various other white and yellow flowers sprung up, forming a carpet of flowers, skirted by the wood,—a most pleasing picture to the eye. We continued our

ride at a brisk trot over the Campo do Collegio, distant three leagues and a half from Porto das Caixas, and as far in a straight line from S. João: at the end of it we noticed the former College of Jesuits, surrounded with magnificent trees; it is now transformed into a large fazenda. Behind the Campo rose a chain of mountains on the right, the summits of which were enveloped in thick clouds; this was the Serra do Rio de S. João. Notwithstanding the rapid pace at which we proceeded, the road to Santa Anna, five leagues distant from Porto das Caixas, seemed interminable; for a long time every person we met told us that it was only a league distant, and after travelling on for more than an hour, it was reported to be still a good half league off.

A negro, mounted on a jaded nag, had joined our party, and acted as pilot in passing the deep pools which the rain had formed. All we could get from him, beside curses on the laziness of his Rosinante, was that he was riding to the "Tenente-Coronel" at the "round mountain." Issuing suddenly from the capueira, we entered an extensive tract of meadow, upon which stood three gigantic Sapucajas, raising their heads proudly like enormous crimson flowers, and standing out in contrast against the black rain-clouds: a few houses were scattered over the meadow. This was the long wished-for Santa Anna. I cannot describe the magical impression which these wonderful trees, enlivening the dark picture in so remarkable a manner, made upon me. We turned from our path to the right, and rode up to the house of M. Boulanger, who unites in his person the dignity of

fazendeiro and innkeeper, and occasionally navigates his own vessels upon the Macacú, trading with Rio. Here we dismounted, at half past one o'clock, after a forced ride and wet through. M. Boulanger politely conducted us upstairs into a large clean room, and in a few minutes the soup was steaming upon the table,—an instance of alacrity not often found in a Brazilian venda! Our Arrieiro, pricked by conscience, now confessed that his comrade, who had remained behind with the sumpter-mules, did not know a step of the way; we were therefore obliged to send the fellow who had accompanied us after the culprit, arranging to meet the next evening at Novo Friburgo, as the second *échelon* on our journey.

We mounted our horses and collected our troop for departure,—military discipline being now introduced among us; a negro was to accompany us to the mountains, and M. Boulanger politely offered to conduct us to Agoas Compridas, five leagues distant, where we intended to rest for the night at the house of M. Darieux. Our host had exchanged his house-dress for a brown jacket, a pair of large boots, and a blue cloak or *poncho*, wrapt round his body in the Brazilian fashion.

It was already four o'clock; the rain had ceased, and the sun was going down, as we entered a wood—truly like an enchanted one—our ride enlivened by agreeable conversation with our host. The trees, with their beautiful blossoms, the profusion of which on some clothed them as it were with a lilac colour, produced a magical effect: creepers hung down from their branches, here and there surrounding large, shield-like leaves (of a *Pothos* or

Calladium), the slender bright-green stems resembling a coat-of-mail. Wild plantains (*Heliconiæ*) and many other plants new to a European eye, growing on the swampy ground, gave a peculiar charm to this scenery. In spots where the water had drained into pools by the roadside, or where springs issued from the ground, the moisture imparted to the surrounding vegetation a surprizing luxuriance, and small alcoves or bowers were formed on the skirts of the wood. How enviable one feels the artist's skill to be, in viewing such charming pictures of repose! Nature in these tropical regions seems to have withdrawn her loveliest charms, like a modest nymph, to such secluded spots, bathing and reflecting herself in the mirror of these waters, unexposed to the eye of the passer-by. What garden in Europe, with all the aid of cultivation, can equal such a spot? These woods were no longer properly a capueira, nor did they belong to the primeval forest; the Brazilians call such a tract of country, overgrown with marsh-plants, by the name of "Brejo."

The wood was passed only too soon, and we now looked up at the murky clouds, in the direction of Novo Friburgo, in search of the Serra, which we hoped to enter the same day. Mountains seen for the first time have always a peculiar charm; if enveloped in clouds, our curiosity is only heightened, and the imagination pictures to itself every variety of form beneath the veil. After a ride of three quarters of a league, we came to a lonely chapel called the Capella da Conceição, near the wooded hills on our right, while the dark brown waters

of the Macacú rushed along close to our road on the left. We turned suddenly toward the rapid stream, and with M. Boulanger at our head rode through it, and followed a path up the right bank of the Macacú, through a low coppice. It now began to grow dusk, and we all set off at a quick trot, our companion not wishing us to pass the bad part of our road in the dark. Notwithstanding the clouds, it was clear that we were approaching the mountains. We passed an extensive but low building, the Engenho do Coronel Ferreira, near which spot our attentive guide pointed out the place where the Macacú ceases to be navigable: the rapids commence here, and the course of the river is obstructed by rocks. As the communication by water is stopped, more attention seems to be paid to that by land, and a high-road has been macadamized for a few hundred yards, which is to be continued to Novo Friburgo. But no sooner had we passed this short piece of road, than the rest presented a striking contrast, being the worst portion of our route today.

We now observed that we were entering the mountains: the road, which had hitherto been muddy, became more rocky, and the clayey soil assumed a red ochre colour. The Macacú hurried along its course on our right, and its bed seemed to sink deeper and deeper below us. All was dark around. M. Boulanger's mule stepped carefully over the numerous pieces of rock, and my beast followed her steps with the greatest caution. The birds were singing, and the shrill noise of the cicadas sounded disagreeably in our ears: fireflies illumined the air with

their blue light, and, as our faces occasionally brushed past the branches, we perceived clearly that we had entered the forests of the Serra. "What may be the appearance of the primeval forest by day?" I thought to myself, looking forward anxiously to the following morning. Suddenly the path descended toward the Macacú: M. Boulanger hesitated—we were all attention. "Suivez les pas de ma mule, Messieurs!" he cried; "ce passage est dangereux; plus d'un cavalier y a disparu avec sa bête!" In passing the river we felt the force of the stream, which seemed as if it would take the horses off their feet; whilst on our right we heard the noise of the rushing water, as if dashing down precipitous rocks. We had just climbed the opposite bank, when the last of the column passed the Macacú in safety: it was seven o'clock, and we halted at a cottage. At Boulanger's call, Darieux, the little innkeeper, opened the door, but shrugged up his shoulders as he surveyed our large party, exclaiming, "La maison est pleine comme un œuf!" We however dismounted, led our horses to the back of the house, left them there for the night, and entered the inn. Darieux did not exaggerate, for in truth "la maison *était* pleine comme un œuf!"

A Frenchman, in a light-blue blouse with manifold plaits, first attracted our attention by his volubility. The wife of the landlord was a young Swiss from Freiburg, and spoke French; a fair little German girl assisted her in the management of the house. Some Brazilians were seated at a table in the adjoining room; nor must I forget to mention an interesting person—a light-haired

"Stralsundian," who was journeying as a carpenter; he had been a sailor, and, having been pressed into the imperial service, had fought in the war with Buenos Ayres.

At dinner—which was well-served, although we were kept waiting for it long enough—we were highly amused by the little Frenchman in the blouse, who made us guess in what part of France he was born, but in vain: he then told us that he was a Béarnois, adding that he had been educated in Paris; whereupon our compliments on his pure pronunciation came naturally, though rather late. We had from the first observed that the little man took evident pains to preserve his Parisian accent uncorrupted in the forests of Brazil, and displayed his powers of oratory on every opportunity.

We four occupied a small room, each having a bed to himself: the French conversation continued for awhile in the adjoining apartment, mingled with the rushing noise of the Macacú, but ere long I unconsciously fell asleep. Of one thing however I *was* conscious, before closing my eyes, that my map of the province of Rio de Janeiro, published at Mannheim, contains some errors; for instance the Macacú flows past Agoas Compridas—as our inn is called—and extends a considerable distance above it into the Serra*.

September 29th.—It was nine o'clock this morning before we mounted our horses. In front of the house lay

* The river from its source to the Engenho do Coronel Ferreira is called "Agoas Compridas" (Long Water); and from the point where it becomes navigable, the "Macacú."

the trunk of a gigantic tree, covered with *Orchidaceæ*, at the foot of some rising ground. The forest-trees had been cut down in the lower part, but the stumps rose high above the grass and plants, while here and there a tree, which had escaped the axe and fire, stript of its bark, reared its head toward the black rain-clouds. Higher up the acclivity extended the primeval forest, the deep shades of which set off strongly the slender white stems. Our way led up the valley of the Macacú, which swept along far below us on our right: we gazed upon the vaulted tops of the lofty trees on the opposite bank, admiring the varied tints of green, which are not seen in our woods. The forest extended as far as the eye could reach: we soon entered its refreshing shade, and lost sight of the surrounding country, which was seen in an unfavourable light today, the fine rain obscuring the outline of the mountains. On emerging from the wood, we skirted the side of another hill, and, at about half way up the ascent, came to a number of huts: the ground was cleared, and coffee-plantations covered the heights. These dwellings, behind Agoas Compridas, bear collectively the name of "Registro," though the Registro, or custom-house, itself is only a few hundred yards behind the inn; it was marked on my map about half-way to Novo Friburgo, where there were formerly two outposts, at which the Swiss colonists—who in the reign of Dom João VI. were transplanted hither from Europe—had their passports inspected, in travelling to Rio. These posts were abandoned about the year 1828, but their sites are still

called Primeiro and Segundo Registro. We met several Tropas, mostly conducted by Indians, and ere long were again surrounded by the forest.

Hitherto we had been used to inquire, in passing through a wood, whether it formed part of the primeval forest; we no longer asked this question, for we were now *conscious* of the fact. The solemn feelings which arise on entering these forests for the first time indicated the truth surely enough. At first we gazed in wonder on the labyrinth of tall, straight trees, rising like giants, and into the tangled creepers and climbers which surrounded us; we looked up to the light roof of foliage, through which was seen the vault of heaven as through a veil, but we could not account to ourselves for all we beheld. The imagination may picture to itself the aspect of these forests in the most glowing colours, but it will fall far short of the impression produced on the spectator when setting foot in them. Every object is here colossal, everything seems to belong to a primeval world: we feel ourselves to be in disproportion to all around us, and to pertain to quite another period of existence. The gigantic scale of all the objects first excites astonishment, and this is increased by the great difference between the vegetation in these forests and our own. Where in our country we find a shrub or fruit-tree in flower, we here see gigantic trees twice or thrice the height, in all the splendour of bloom, clothing the whole crown of the tree with its colour. This was the case with the red Sapucajas, which now exhibited scarcely a vestige of green.

The chief ornament of the forest, on our ride to-day, were trees with magnificent, large, lilac, and others with white blossoms, contrasting beautifully with the surrounding varied tints of green. After enjoying, with a restless glance, this splendid display of colours, we turned to the deep shades which lay disclosed, solemn and mournful, between the gigantic trees on our way-side. The flame-coloured raceme of a Tillandsia, a foot tall, and resembling a brobdignagian pineapple or strawberry, glowed like fire among the dark foliage. Again our attention was attracted by the charming Epiphytes, climbing up the straight trunks of the trees, or picturesquely covering their branches, which seldom shoot out from the trunk at a less height than fifty to eighty feet from the ground. From the fertility of the soil, the trees spring up so densely, that when young, their branches, not having room to expand freely, strive to overtop one another. The Tillandsias nestle at the ramification of the smaller branches, or upon excrescences, where they often grow to an immense size, and have the appearance of an aloe, the length of a man, hanging down gracefully from a giddy height over the head of the passer-by.

Among the various plants which spring from the branches or cling to the stems of the trees are the mosses, hanging down, not unlike horses' tails, from the branches which support the Epiphytes and Tillandsias; or one might fancy them the long beards of these venerable giants of the forest, that have stood unbent beneath the weight of a thousand years. Myriads of

Lianes hang down to the ground, or suspended in the air, several inches thick, and not unfrequently the size of a man's body, coated with bark like the branches of the trees. But it is impossible for any one to conceive the fantastic forms they assume, interlaced and entangled: sometimes they depend like straight poles to the ground, and striking root might, from their thickness, be taken for trees; at other times they resemble large loops or rings, from ten to twenty feet in diameter, or are so twisted that they look like cables. Sometimes they lace the tree regularly from distance to distance; often they embrace it so closely as to choke it, and cause all its leaves to fall off, so that it stretches out its dead gigantic arms like branches of white coral, among the fresh verdure of the forest,—a picture of death, surprising us in the midst of the most blooming life: frequently however they give the old trunk a new covering of leaves, so that the same tree appears clothed in several different kinds of foliage.

The variety of leaves in short is infinite, but they are mostly very fine and small, and the roof which they form is of no great size, being often vaulted like that of fir-trees. I have never observed conifers in the primeval forests, but the dark-coloured foliage of some other trees much resembles them. A group of Imbaibas, on a rising ground near our road, presented a peculiar appearance, their slender, smooth, and white stems rising high above the surrounding thicket, and their small crowns, of large-lobed leaves, crowded picturesquely together or overtopping one another. Nor

less interesting was another tree which I observed, resembling the Imbaiba in several respects; but its leaves are silver-grey, and perfectly white beneath; and the regular growth of its branches, extending like the arms of a candelabrum and bending over at their summit, gives this tree a character of its own.

In my opinion however the greatest ornament of the primeval forest is the graceful palm, yielding to the gentlest breeze: its slender, pliant stem may almost be spanned by the hand, and nevertheless it rises to half the height of the tall forest-trees, being frequently from sixty to seventy feet high. The small crown at the top resembles a tuft of pendent feathers, consisting of finely pinnated fronds, from the midst of which rises a pointed spire, of a light-green colour, giving to these beautiful palms the appearance of the slender shaft of a lance or a waving reed: never have I beheld anything more graceful. They are generally seen in groups, and their clustered tufts rising from amidst the foliage, and agitated by the least breeze, bow their heads as if in graceful salutation to the passer-by. All species of palms usually love company,—not only those of a tall and slender growth, but also those with stiff spines, and thick crowns, as well as many others with larger trunks; even the stemless, shrubby palms are generally met with in groups in these primeval forests. The traveller sometimes journeys on a long way without seeing anything like a palm, and again at other times his road will lie for hours among these trees.

At first we rode on for some time without speaking,

but at length exclamation followed exclamation, and our amazement increased at every step, as one new picture succeeded another. Not a picture indeed for the Berlin Exhibition! for the critics would fancy that the artist had amused himself with collecting together on his canvas all possible marvels, and all imaginable products of the country—the whole Flora of Brazil, viewed through a magnifying-glass,—to produce an effect. Everything here is truly wonderful, and altogether different from what we, in our cold northern regions, can picture to ourselves. In what other part of the world is to be seen such a union of the grand and sublime, with the beautiful, the lovely, nay even the fantastic, and all forming so harmonious a picture, as we witness in these tropical forests of the New World?

My admiration of the palms had nearly made me forget the arborescent ferns, which alone vie with them in gracefulness: they indeed somewhat resemble small palms, only that their light elastic tuft is flatter and less bushy than the crown of the former trees, and the fronds hang down more, without the arched form of the palms. It is beautiful to see the enormous fern-leaves, at least ten to fifteen feet long and five feet broad, agitated by the gentlest breeze, and gracefully waving to and fro with a ceaseless motion.

Perfect silence however does not reign in these forests, as is generally but erroneously imagined, for the singing of birds and the sounds of the cicadas are heard incessantly; some of the former, especially a beautiful large brown bird, attracted our attention, and Mr. Theremin

also recognised the cry of the white Ferrador or Araponga. We were diligently on the look-out for monkeys, but in vain.

The road became more and more steep, and we had again an occasional view over the forest at our feet. The woods stretching to our left were pathless, and a man might cut his way through them for days in that direction without meeting a person. We were however more fortunate, for on the Serra Alta—at the highest point of the pass—four leagues from Agoas Compridas, we not only met men, but even honest Germans! Wilhelm Eller, from Darmstadt, gave us a hearty welcome, and the best entertainment in his power. Whilst listening to the pure Darmstadt dialect of his youth, we almost forgot that we were surrounded by these forests upon the inhospitable Serra! It was touching to see the strong attachment which Wilhelm still retained for Germany, after an absence of fifteen years,—how he clung to the recollections of former times, and seemed delighted at seeing his boys grow up like good Germans, as if they had been educated in the home of their parents. Our host told us many particulars about the birds of gay plumage, which at certain seasons visited his lonely dwelling; the macaws frequently alighted on the branches in front of his house, and he had once a visit from an onça, or jaguar, which prowled about his settlement for some weeks.

Another German, Heinrich Vogler, from Brunswick, was living with Wilhelm; he had been a soldier in the German Legion here, and appeared dissatisfied with his residence in Brazil. Our hostess, who was from Bingen,

served the repast, and we soon afterwards mounted our horses. The reckoning showed that these good people retained the true spirit of German simplicity and honesty. What an interest people often attach to trifles! one of the first things they asked me was whether the stick I carried was a German one, and they seemed quite disappointed when I answered in the negative—they had taken it in their hands with such delight!

We continued our ride, and following a stream descended on the other side of the Serra, but not quite so far as we had ascended on this. The forests covered the two ridges which enclosed the valley, and nearer to us stood a few lofty trees, while graceful palms and ferns grew in abundance around. A new object now presented itself, which gave a changed character to the whole scene, —the tall reed "Taquara Assú." Except in our ride to the botanical garden near Rio, I had never before met with the Brazilian bamboo: it overtops high trees, resembling in appearance dark-green lances, from thirty to sixty feet high, and bent like bundles of flexible spears in lofty arches over the road. Toward the lower end it is frequently as thick as a man's body, and has regular internodial divisions: sometimes it is quite smooth, and bears small leaflets on its slender and scarcely visible branches. The bamboo, like the palms, generally occurs in large masses.

The bottom of the valley appeared in many places to be overgrown with capueira: the side of the mountain had been partly cleared by fire, and only a few singed palms remained standing on the open space, the yellow

tufts of which hanging down presented a mournful appearance: in a word, cultivation had already commenced its inroads on the great primeval forest. We noticed this in riding over the ground of a Swiss named Claire, below Wilhelm's estate; and as we descended, the cultivation continued to increase.

The valley now widened into a fine verdant basin, surrounded by hills, on which were still seen traces of the ancient forest. Near a limpid brook stood an isolated house, in which a party of jovial Germans seemed to be making merry. A man came trotting after us, and the baker, Master Grippe—by which ominous name he announced himself—reproached us for not having halted at Schott's house. He seemed to have made free with the glass, and in a pelting rain, which almost swept us down the clay hill, he accompanied us to his dwelling. The rain prevented our enjoying the prospect, and the sun had already set, when we observed before us an open grassy plain, surrounded by hills,—the colony of Novo Friburgo, also called "Morro Queimado" (Burnt Hill*). It was five o'clock when, after a day's journey of seven leagues, we entered this small village, which consists of sixty or eighty houses, surrounded with little gardens, and dismounted at Mrs. Gould's residence.

The rest of the evening was spent in procuring information about hunting. From the accounts given us at Rio, we expected to meet with all kinds of wild beasts.—

* The hills and mountains around Novo Friburgo have a parched autumnal appearance during the cold months; hence the name Morro Queimado.

"In the Serra near Novo Friburgo," we were told, "you will shoot antas (tapirs) in plenty; tigers indeed are not quite so common, but why should you not fall in with an onça?" My passion for sporting, which had hitherto been confined to gay-plumaged birds and small animals, was excited by these reports, though perhaps less than that of my companions the two young Counts. Mr. Besecke, to whom we had been referred, expressed his regret that on the morrow we could only stalk deer, and that we should not be able to penetrate further into the Serra till the day after, to hunt antas. With our heads full of tapirs, tigers, handsome birds, of climbing plants and gigantic trees of the forest, we retired to rest, and soon fell asleep.

September 30th.—Before entering the wood we stopped for a moment at the house of Mr. Besecke, our Nimrod, who on nearer acquaintance made himself known to us as a trader in birds' skins and taxidermist. He gives employment to above thirty huntsmen, whom he has provided with guns, and from whom he purchases the game they shoot. His pretty wife assists him in the evening in stuffing the produce of the day's sport,—a task which she executes with great skill and grace, but which yet seems unfitted for a woman's hands. Mr. Besecke at this time had 35,000 birds on his shelves, among which were magnificent humming-birds, the gorgeous feathers from the breast of which are used in Rio for the manufacture of feather-flowers: these form his chief article of trade. Our Nimrod has navigated a considerable part of the globe, but has never

visited Europe, though he speaks German as well as ourselves. His father was born in Berlin, and emigrated to North America; he is himself a native of the United States. Young Besecke appears to have inherited his father's restless disposition; when quite a lad he undertook a voyage to the coast of Mozambique, from whence he came to Brazil, and has been settled here for some years.

During our chase today, which was not crowned with success, the chief subject of our conversation was "*the* deer,"—as the only representative of the race of quadrupeds in the forests around Novo Friburgo. All our high-raised hopes were now centred on this gentle animal—the sole object of our chase. As we stood watching, with the most laudable patience and breathless expectation, behind some rising ground among the bamboo-canes, the deer played us no bad trick, bounding off, to the great joy of all the youthful beholders, through the wide street of Novo Friburgo, up to our own servants, as if it would run into their arms; on coming near them however it turned quickly about and presently disappeared.

As there seemed to be no chance of killing the deer, I went with a German lad into the capueira to shoot humming-birds. At first he would speak only Portuguese, till at length I persuaded him to converse in German. As we walked singly along the slippery path, I asked where his parents came from: he replied, "From Germany." "But from what part of Germany—what place?" said I; for, judging from his pronunciation, I

thought they must have come from the Rhine. "What place!" answered he; "why, my parents say from Europe." He laughed outright when I told him that we had no humming-birds in Germany, and could not conceive why I shot such common birds, adding, that "thrushes and pigeons are much prettier and more rare."

October 1*st.*—To our great regret we were again disappointed in our tapir-hunt, being told by our sportsmen that it was out of the question to meet with antas in the forest in such rainy weather; the dogs too had no scent. I therefore sallied forth again with my young companion to shoot humming-birds.

The first settlement of the Swiss colony of Novo Friburgo took place in 1820, during the reign of Dom João VI., who ordered a row of small huts to be erected, and distributed among the first colonists allotments of land, which extend five to six miles around Morro Queimado. The colony advances slowly, chiefly in consequence of the difficult communication with the metropolis, which in the rainy season, when the roads are bad, is maintained by means of costly Tropas. Fresh butter, a very scarce article in Brazil, potatoes and other European products which thrive in the cold climate of the Serra, are sent to Rio, in exchange for salt, wine, and manufactured goods. Besides the Swiss, a number of Germans have settled here; French and English are also met with, and indeed representatives of most nations. German is as much spoken here as French, but the young people mostly speak Portuguese, at least when away from home. The Protestant minister, Mr. Sauer-

brunn is from Homburg. In general the people do not appear to be satisfied with their residence here, and seem anxious to return home: this is however not the case with all, some having fared better than the rest. Novo Friburgo is said to be sometimes very gay, chiefly when a number of strangers, mostly English, repair hither from Rio. At these seasons indeed there is even *dancing* at Mrs. Gould's house, probably for the amusement of her three or four young lady boarders; and the fame of these balls extends to the banks of the Parahyba! We found the air much colder on the Serra than in Rio; in the night indeed we were shivering.

October 2nd.—We left the colony at six o'clock this morning, just at daybreak, and rode obliquely across the broad street or square, which Novo Friburgo forms, passing two magnificent Brazilian pines, the only ones which I have seen on my journey. We then entered the surrounding capueira, out of which rose the naked, round masses of rock encircling the basin of Morro Queimado, pointing with their summits toward the dark clouds.

Our road lay for some time through this coppice, intermixed here and there with fine trees of the primeval forest; it afterwards led down to a lovely valley, along the right margin of which we continued our journey. On the opposite bank of the stream, which murmured below us, cactuses climbed up the naked walls of rock on our left, while at a short distance on the right the dark forest commenced.

We had now entered the basin of the Parahyba: the

little rivulet below gradually increased to a rushing mountain-stream; in fact, it here assumes the name, more high-sounding indeed than it deserves, of "O Rio Grande." Occasionally a house is seen near its banks. The Estrada Real is here merely a footpath, on a hill-side, so narrow that we had often difficulty in passing the Tropas that we met. The feet of the mules, which follow in each other's steps, have formed holes one to two feet deep in the slippery clay soil, which are perfect pools of mud. The mules stepped with great difficulty over these places, sometimes slipping with their fore legs into one hole and their hind legs into another, so deep, that their belly rested upon the firm ground between, and it was almost impossible to proceed. These roads in fact are so bad, that, after long and heavy rains, the mules are said frequently to fall exhausted and perish on the spot,—a fact which we saw confirmed by the bones lying scattered about on the road. Such accidents render it necessary for the traveller to be provided with spare mules. Our attention was here first attracted by the peculiar nests of the genus *Cassicus*, suspended like green bottles from the branches of the high forest-trees.

At nine o'clock we reached some lonely houses, situated down in the valley, called "Banquetta," where we passed the Rio Grande over a rickety bridge. The precipice on each side had been cleared of trees, a few high trunks only having escaped the flames. The capueira now began gradually to re-appear on the roadside, and higher up stretched the forest; while the walls of rock had ceased, and were succeeded by isolated, pictu-

resque rocks rising among the bushes in the valley. Just behind Banquetta Mr. Theremin drew our attention to the scream of the parrots, which is so loud, that you involuntarily turn round, supposing the birds to be close at hand; when, after a vain search, you at length descry them at a great distance. As we continued our ride along the lovely banks of the Rio Grande, a whole flock of these birds alighted on a high tree close to the river. We dismounted, loaded our fowling-pieces, stole silently to the tree, and fired into the midst of the parrots. Some fell into the stream, and were carried away; but we had an opportunity of admiring the fine play of colours on their plumage. When on the wing, they have a dark appearance against the blue sky; and when perched on trees, their green colour makes it difficult to distinguish them among the leaves, were it not that their incessant noise readily betrays them, sitting on the branches or stepping from one to another with great gravity. As soon as a shot is fired among them, the whole flock set up a loud scream, and taking wing fly round and round in a circle, generally alighting on a neighbouring tree. Count Bismark had thus an opportunity of shooting a third parrot, which we took with us.

After a few hours' ride, we arrived at one o'clock in the afternoon at "Bomjardim," a solitary venda belonging to M. Maulaz, six leagues distant from Novo Friburgo. The valley is here less wild, and the coffee-plantations commence. A Tropa was encamped on the road, close to the house, and there were also other visitors: a young Swiss, from the banks of the Parahyba,

and a Savoyard, were resting their beasts here. They had both many stories to relate of antas and jaguars, which, they told us, inhabited the adjacent forest. A rock that we had passed in our morning's ride was a principal feature in these accounts. The most interesting adventure however was an instance of heroism in a woman, who, in the absence of her husband, defended her house against a tiger. Seeing that we were anxiously in quest of adventure, these men volunteered to assist us; we however declined their offer, soon observing that they were making promises for others, which would probably be unfulfilled.

Our host appeared to have seen better days: M. Maulaz is, I believe, a Swiss by birth, of good family, who lost all his fortune during the revolution of July. Madame Maulaz was from Burgundy. They had both resided in Paris, where their eldest daughter, a pretty girl, was born. Poorly as the parents were clad, their four children all appeared neatly drest, and everything betokened cleanliness. The dinner was very good, but we had to wait a long time for its appearance.

It was a fine afternoon when we left Bomjardim, at four o'clock, accompanied by the Sardinian. Flocks of screaming parrots were soaring high in the air, around the hills which encompassed the valley and are planted with coffee and milho. The plantations of coffee on the hill-sides gave the country a peculiar aspect: this plant is a dark green, small, and roundish shrub, and has a pretty appearance, although planted regularly. Numbers of birds, of variegated plumage, were flying about,

and I was twice induced to dismount and have a shot, but without success. The road now improved, the sun was already sinking, and having still a long way to go we set off at a brisk trot. We skirted a charming valley of meadow, here and there interspersed with groups of large forest-trees; and at two leagues distance from Bomjardim we passed the fazenda "a Penha," which lay far below us. Our Sardinian companion turned in here, without taking leave; and, having sent our Arrieiros on before with the pack-mules, we were left quite alone upon this strange road. Twilight succeeded, and soon after it grew perfectly dark: no trace of any path was longer visible. In this dilemma we could only rely upon our mules to find the way,—animals in whose instinctive sagacity I have for years placed the greatest trust. Count Bismark headed our troop, upon his old grey mule, and we rode on confidently in the dark. The forest—if such it was through which our road lay—resounded with many an old German song, while the mule that led the party advanced cautiously, as if conscious of the importance of her task. We followed each other closely, and Count Oriolla brought up the rear. The peculiar harsh sound of the cicadas was mingled with the occasional lugubrious croaking of a toad, and the loud noise made by a species of bull-frog, which might be compared to that of felling timber. It was so dark that we could not see one another, though now and then I fancied that I caught a glimpse of Count Bismark's grey mule. We proceeded thus for a long while; then came a cross-path—a consultation was held, and the mule decided for us, as we knew

nothing of the road in this strange country. Sometimes we had all the feeling of riding along the edge of a precipice; at others, the beasts seemed to be sliding on a smooth clayey soil; and again, by the inclination of our bodies forwards, we were apparently on a descent, —this we could *feel*, though it were so dark that not a trace of the path could be seen. Every now and then we heard a fall, which however did not silence our songs —"Prinz Eugene," "Der Dessauer" or "Das Mantellied." It was not till afterwards that we learned who had measured the ground.

All at once we descried a light—our road lay in that direction—we listened with breathless eagerness: plaintive sounds, and a noise like that of felling wood, led us to believe that we were approaching some human habitation; but alas, no! the light proved to be merely one of the glowworms, similar to those I had observed in the glens of Salerno. Several times we were led astray in this manner, before discovering our error. Suddenly our animals stumbled over some poles, which seemed to stop the way; we presently observed a fire, and heard distinctly the sound of voices. We halted, at the bivouac of a Tropa, on a cold, wet meadow!—rejoiced nevertheless at finding that we had taken the right road. "Cantagallo is still two leagues off," said the man who opened the paling of the enclosure to let us pass. Taking courage at this information, we pushed on briskly. Mr. Theremin, on his mule, now took Count Bismark's dangerous post. Lightning followed, and such lightning! For a moment it showed us the path, winding

through a mountainous region, and again we were enveloped in perfect darkness. From time to time voices were heard from the rear of our column, calling on us to halt—some one must have fallen: we stopped for an instant, and again were in motion. Suddenly there was a general confusion—we started—all trace of the path was lost. A flash of lightning discovered some of our party on the edge of a ravine, and the rest below: at least ten minutes passed before our column was reformed. We rode on thus for some time, when a vivid flash showed that we were at a cross-road. Again we hesitated—the rain fell in torrents; the Sardinian, like a true friend in need, offered to conduct the party. Soon after we forded a broad piece of water, the depth of which Mr. Theremin had the pleasure of ascertaining with some accuracy, by falling over the head of his mule. This however was not all; we soon entered another ravine. Mr. Theremin, who, instead of following the foot-path, had with some others of the party kept along the top of the acclivity, dismounted for an instant from his dripping animal, and was standing on the edge; we called out to him to take care, when, not knowing which way to turn, he set a wrong step in the dark, and rolled down the bank at our horses' feet. A shout of laughter followed, and it was some time before the Consul could induce his faithful beast to come down to him. We continued our way along slippery roads, and sometimes apparently on the edge of precipices. About midnight we reached Cantagallo in safety, and halted at the house of M. Friaux. Our accidents, although trifling, had been nu-

merous: beside the Consul's fall, Count Oriolla had been down seven times with his rough bobtailed beast, and my servant thrice. I remembered that at this very day and hour, five years before, (October 2nd, 1837), I was on board the Austrian man-of-war steamer, the 'Marianna,' in the Black Sea, when a storm came on which drove us about near the mouth of the Bosphorus, threatening to cast us on the coast of Asia Minor; on the second of October, 1822, a shower of stones fell on us near Fürstenstein in Silesia, as I was going with a party from the "Grund" to the old castle. To these recollections of my featless youth, this night spent in the forests of South America may form a worthy counterpart. After enjoying a good supper, we betook ourselves to rest, and soon fell asleep.

October 3rd.—Cheerless and drear was the prospect when we awoke this morning; the monotonous plash of the dropping rain, the wet window-panes, the gloomy light in our small room, all bespoke one of those days of continued rain so frequent among the mountains. Going to the window, I overlooked the end of a green valley, which lay before me, in the form of a saddle, with a flat depression. Two gentle slopes planted with coffee seemed to rise out of a glen, the bottom of which was concealed from view by the foot of a hill on the right. Excepting a few houses in the neighbourhood, we saw nothing of Cantagallo: the weather was uninviting, and our time too short to allow us to make any excursion, especially as the principal part of the town lay on the other side of the valley

We took our departure soon after ten o'clock, following the road along the valley, which widened considerably; and presently met Dr. Troubas, one of the proprietors of the large fazenda called "Aldea," situated at a short distance. We intended to visit this establishment, having been told that the cultivation of coffee upon it was very interesting. The Doctor—as we afterwards learnt—was on his way to assist in amputating the arm of a negro, who had been bitten by a snake; he however returned with us to his fazenda. Aldea is situated in a valley of meadow-land, through which flows the Rio Negro, a broad stream that we had to pass. The acclivity on the right is planted with coffee, but the opposite hills are still partly covered with forest. "When I burned down the trees hereabouts," said Dr. Troubas, "the monkeys took refuge in yon remains of the old forest, where there are still great numbers of them: in the wooded hills at the back are jaguars and antas."

We dismounted in a pretty garden, the chief ornament of which was an arbour of passion-flowers, and entered the spacious mansion, where we met with genuine French society, consisting of Madame Henry, Madame David, Dr. Troubas and M. David; their cultivated manners and deportment struck us the more forcibly, from meeting them thus as it were in a wilderness. The black servants however, and a few "negrinhos" who were playing with the white children, reminded us that we were not in Europe. The conversation soon turned, from the fatigues of travelling in Brazil, to the condition of the negroes, who seem to be regarded here as merely an

intermediate step between man and the brute creation. On this point even the ladies observed, " Ils ne sont pas à la hauteur du mariage," adding, that on this account no marriages were allowed among the negroes at the fazenda.

After taking some refreshment, we were accompanied by the gentlemen over the establishment, and shown the system of coffee cultivation. This plant requires the best soil, and exposure to the sun; it is generally grown upon tracts of the old forest recently cleared by fire,—sometimes, but rarely, upon old capueira, of at least twenty years standing, the ashes of which serve as manure. The plant bears fruit well for ten or fifteen years; it is then cut down, and the new shoots bear at the end of two years. One negro is required for every thousand or fifteen hundred coffee-plants: at Aldea there were a hundred and seventy, beside the children, who tended 250,000 plants. The profit derived from coffee-cultivation is shown by the fact, that the sum of 110,000 milreis—the price at which the proprietors purchased this fazenda, with a hundred and thirty negroes upon it, five years before—had already nearly been paid off.

When the coffee has been picked by the negroes, the berries are dried on the *terreiro*, an open space or floor of clay beaten hard; after which it is put into large boxes, and carried to the pulping-mill, which is driven by water, and then to the fanning-machine, where it is twice winnowed: the coffee is then ready for transportation by the Tropas. We also inspected a contrivance for drying the coffee-berries by steam, which has proved

unsuccessful, and some buildings for the accommodation of the negroes,—an indispensable part of a fazenda. Here we saw for the first time an "engenho," or mill for pressing the sugar-cane in the preparation of brandy. The press, like all the machinery in this part of the country, is very simple: the sugar-cane is placed between three upright cylinders, which revolve in opposite directions. The spirit prepared in this manner, or "Agua ardente de Cana," is of better quality than the "caxaça," which is made from the scum of boiling sugar or syrup.

I had nearly forgotten to enumerate one principal adjunct of a fazenda—the pigsty—to which we were first conducted. It was constructed of trunks of trees, laid one over another, open above, and apparently very clean,—a fault in the eyes of these gentlemen, who fancy that this animal thrives best in dirt. Hog's lard is considered an indispensable ingredient in the preparation of food for the negroes.

Whilst I was conversing with the ladies of the house, my companions went to see the dwelling where the negroes are lodged,—a long, dirty building, one story high, externally resembling a stable. In the hospital, which my friends first visited, the hall and rooms for the two sexes were separated. A negress was lying on a mat, with her little "negrinho" at her breast, to which she had given birth only the night before. "In a few days she will be able to resume work," said the Doctor to Count Bismark. In the men's room there were four or five patients, suffering from accidents of various kinds.

Then followed the laundry, where each negro has a shelf, numbered. The men receive every Sunday a pair of clean white linen trowsers and a shirt,—the women, a gown and chemise. Passing through a long corridor, the visitors entered the rooms set apart for the negroes, which are small and blackened by smoke. Every evening, when their work is done, they light fires in these apartments, around which they sit for hours, even after the severest day's work, all talking and smoking, women as well as men: they have every week a certain allowance of tobacco.

Work begins at the fazenda at four o'clock in the morning, after every slave has had his coffee: at ten o'clock they take a second breakfast, which consists of mandioca-meal, and boiled rice, or maize: at two o'clock they dine, off *carne secca*, (dried meat, mostly imported from Buenos Ayres) with rice and farinha; but in the country around Cantagallo, the negroes have more frequently pork and hog's lard, the carriage of the dried meat from Rio being too expensive. After this they continue their work until seven in the evening, from which hour till nine o'clock they have supper, consisting again of rice, mandioca- or maize-meal: then comes their time for sleep, although they generally sit up talking till twelve or one o'clock. Seven or eight persons lie in one room, each being provided with a mat; many however construct recesses of branches and boards, which they prefer to the *esteiras*, or mats—a prejudice perhaps derived from their former wild life.

After taking this survey of negro life on the planta-

tion we continued our journey. It was now two o'clock, and the sun shone brightly. At the back of Aldea, we saw beneath a bridge a little fall of the Rio Negro, of which we had heard previously. Our Arrieiros, who by the way were just as ignorant of the road as ourselves, had been sent on before, and we were again left alone. The path soon led us under the delightful shade of the forest: slender palms and fine trees rose on all sides, but the red flowers of the Tillandsias formed the chief attraction on our journey; while, to heighten the effect, large flights of butterflies, of the most splendid colours, alighted on the road, and scarcely moved until disturbed by the footstep of my horse. A flock of green parrots, whose plumage gleamed brilliantly in the bright sunshine, rose close to us, filling the air with their shrill cries. On a sudden my "Botocudo" began to snort, and started, and looking on the ground I observed a snake lying coiled up, sunning itself after the long rain; frightened at the sound of the horse's feet, it glided rapidly into the thicket. None of the three snakes which we had seen this afternoon—and among them was the dreaded and venomous Jararaca—appeared to be above five feet long. We twice heard the rustling noise of other snakes, but could not catch a sight of them. I succeeded in shooting a handsome bird, which I took for a Toucan, but unluckily it fell into the impenetrable thicket and was lost. Our attention was so engaged by the remarkable objects around us, that we missed our way, and on issuing from the forest suddenly saw before us an extensive valley, covered with coffee-plantations. On our left, high rocks

towered above the trees, overgrown with cactuses, whilst the wide tract of forest recommenced above us on the right. We were now still more doubtful of our road; Count Oriolla however consulted his pocket-compass, and finding that the valley lay N.E. in the direction of Santa Rita, we followed it at a brisk canter. This valley was soon succeeded by another, clothed with plantains, interspersed with a few fazendas. Wherever plantain-trees are met with in Brazil, it is a sure sign that human habitations are near at hand: but such a number of these trees I had never before seen. We ascended a rising ground, and continued through the forest along a mountain-ridge. For some days past our road had led through wood and valley, shut out from any open view; but we now enjoyed again a prospect of the distant blue mountains, upon which still rested a few clouds, the last trace of the rainy weather. It was a beautiful evening.

The slippery road soon descended to the valley of the Rio Negro. We could not trace the course of the stream from Aldea to this spot, having seen so little of the surrounding country; all we could ascertain was, that it did not flow through the coffee and plantain valleys. Below, we passed a few houses, the fazenda of Clemente Pareira—the senator and ex-minister of war and justice—and continued our way under shady trees, which overhung the river. Red Tié-fogos were flying about. We fancied ourselves near Santa Rita; but where to take up our quarters for the night, was the question. Knowing that M. de Luze, from Neufchatel,

a relative of my friends the Counts Pourtalès, lived near Santa Rita, and retained a great attachment for Prussia, I resolved to find out his residence and demand hospitality. Mr. Theremin, who had formerly known M. de Luze, when he owned a fazenda on the picturesque Organ mountains, galloped on before to announce the visitors.

Santa Rita consists of a few miserable huts, situated on a hill near the meandering stream, which we were twice obliged to ford. In passing through this place I met a flaxen-haired lad, and asked him the way in German,—taking the chance of his understanding me; in an instant he pointed it out to us: we by mistake however passed the place of our destination, and had some distance to return; but this only gave us further opportunity of admiring a portion of the primeval forest, which exceeded all that our imagination could conceive. In the most charming and secluded spots springs rise from the ground, in the midst of beautiful marsh-plants and broad-leaved Heliconias, overshadowed by magnificent trees, luxuriantly clothed with Epiphytes and creepers.

We returned to the green, cultivated valley, near Santa Rita, where we found M. de Luze's "Fazenda dos Tanques," situated in a meadow covered with plantains, and surrounded by hills planted with coffee and crowned by the forest. M. de Luze received me with the greatest hospitality and politeness. We changed our dress, slipped our feet into wooden shoes, after the Brazilian fashion, and seated ourselves on the benches around the large table in the sitting-room—the chief apartment in

the small house, which was divided by plaster walls reaching nearly to the ceiling.

Our host's neighbour, Dr. Dennewitz, from Wernigerode, a son-in-law of Pastor Sauerbrunn of Novo Friburgo, and the Nimrod of these parts, entered the room soon afterwards, and took a seat near us. Our conversation awakened in him recollections of his native country and of the wars; and, as if in return for the pleasure this gave him, he promised us a hunt of wild-beasts in the forest. Three negresses, smartly drest, were quietly busied at a sideboard in a corner of the room, and presently laid the supper on the table, waiting on us in their peculiar, slow and impassive manner. We began talking about snakes, and M. de Luze told us that a negro was at that time lying dangerously ill in his house, from the bite of one of those reptiles, adding, that he had himself found them in his own bed. We did not retire to rest till late in the evening. Mr. Theremin slept in one room with our friendly host, and we occupied another.

October 4th.—Early this morning M. de Luze conducted me round the fazenda, the arrangements of which were similar to those I had seen at Aldea. He afterwards accompanied me to a spot, where an ochreous clay is traversed by veins of rock containing gold and iron. The granite of the Serra of Novo Friburgo and Cantagallo terminates at Santa Rita, and the limestone commences, which extends a few leagues beyond the Parahyba. The appearance of these latter rocks had attracted our attention in the distant mountains, which we saw

shortly before reaching Santa Rita. I picked up several pieces of quartz containing iron, and my kind host gave me some specimens of gold which had been found in the vicinity.

After breakfast we sallied forth, accompanied by Mr. Dennewitz, to hunt in the neighbouring forests. We expected to meet with antas, and were told that veados* were also to be found there. The dogs were let loose, and scoured up the hills, while we remained standing below in anxious expectation, on an open space and surrounded by the trunks of felled trees. At my side stood M. de Luze's foreman, a native of Königsberg; the other huntsmen were at some distance, on the wooded declivity upon our right.

The chase in this country is very simple: the animals, on being pursued, generally take to the streams and pools of water; and the business of the dogs is to start the game, drive it from the heights toward these spots and direct the huntsman by their full cry, where to follow up the game, in order to fire at the moment when the latter enters the water. The dogs started a veado, which escaped the range of our guns, and was knocked down by our black attendants in the Rio Negro. Following the course of the river, we stopped at the house of a Portuguese named Lauterio, who, with Brazilian hospitality, placed before us fish and coffee. After waiting a long time, the negroes brought in the veado, which proved to be a doe. We also shot a few

* *Veado* is the Portuguese name for deer: in Brazil the word signifies any animal with branched horns.

birds, and were returning, when we observed the dogs on the scent along the slope of the thicket below us: we followed, and presently after met the negroes, who had just taken from the dogs a Quati, or coatimundi, (Nasua). We reached home quite fatigued by the heat, and the toil of following the rough footpaths, being frequently obliged to climb over and under the gigantic trunks of felled trees. M. de Luze and Mr. Theremin met us in high glee, jokingly displaying a Paca—a small species of wild hog—as a trophy of their success; it had been killed by the negroes of the Fazenda!

The dinner, to which we did ample justice, was excellent, and introduced us to some Brazilian dishes. The principal topic of conversation was again the negroes, their condition and treatment. It is true that instruments of punishment, of various kinds, were hanging around the walls of the room; nevertheless it seemed to me, that the negroes are less ill-treated in Brazil than we are wont to imagine; nor indeed do they appear, from what I observed, to be conscious of the grievance which we attach to slavery, as the same exists also in their own country, and they are accustomed to it from youth. The blacks require a strict but just treatment, and the self-interest of the master demands that they should be well-fed and provided for. They did not appear to me to be overworked; at least they certainly did not tax their strength. M. de Luze has resided alone for many years among his slaves; he and his foreman were the only white men among seventy negroes. The loaded guns and pistols hanging up in his bedroom how-

ever showed that he had not entire confidence in them, and indeed he had more than once been obliged to face them with his loaded gun.

The bell was rung at eight o'clock, to summon the negroes to their dwellings. The evening was very cool, and Reaumur's thermometer stood at 12° R. (59° Fahr.). After perusing for some time our host's interesting Album, we retired to rest.

October 5th.—At eight o'clock this morning we went to the house of Dr. Dennewitz, picturesquely situated on the bank of the stream, where we breakfasted sumptuously. Madame Dennewitz, who is a native of Meissenheim, afterwards made her appearance, with her son; we soon mounted our horses, and, accompanied by M. de Luzé and Dr. Dennewitz, set out for Aldea da Pedra, distant seven leagues, which we hoped to reach before night, so as to be ready to hunt the next morning on the banks of the Parahyba.

Favoured by the finest weather, we again passed the tract of primeval forest which we had seen on our arrival. A small valley, covered with capueira, and enclosed by gently undulating hills, ran into the forest, the aspect of which retained its interest, until at noon we reached an acclivity, the Serra da Agua Quente. On the opposite side of the Parahyba, we saw before us the blue mountain-range, stretching far away, with its remarkable summits, among which the Morro da Pedra was preeminent. In the foreground extended several parallel ranges of hills, covered with wood; while deep below in the lovely valley at our feet was situated the Fazenda

da Agua Quente, toward which a steep path conducted. On our left, the slope of the Serra, cleared of wood, descended from left to right; a few gigantic trees, of the old forest, had been spared, from the branches of which hung long beards nearly touching the ground, while their summits towered on high beneath the dark-blue sky. Before us stretched the broad and undulating plain, and also to a considerable distance on the right, the ridges of hills forming a frame to the picture.

I had lingered behind, to sketch, and had now to hasten after the rest of the party. M. de Luze was waiting for me in the valley, and off we galloped through the capueira and forest. We soon overtook our Arrieiros with the pack-mules, one of whom, in trying to get out of our way, stuck fast in the morass; we waited till he had extricated himself, and then dashed along at full gallop, bespattered with mud from head to foot. Some lovely valleys succeeded, with capueiras and fazendas, rivulets and meadows; and after again passing through a portion of the old forest, we reached a beautiful, broad valley, skirted by high acclivities, and overgrown below with coppice, among which single trees arose here and there. We had scarcely rejoined our party, when a flock of parrots tempted me to dismount, and scour the copse in their pursuit, but in vain: meantime my companions had gained a considerable start of me. Mortified at my ill-success, I strapped my fowling-piece at my back, and mounted my trusty "Botocudo," when M. de Luze's negro joined me, and proved a wel-

come guide. We came up with the party in a picturesque valley, and soon afterwards stopped at the house of Pierre Davoine, a native of Neufchatel. The good people were so delighted at my visit, that they refused to accept any payment,—happy in having an opportunity, in this foreign land, of testifying their hospitality and attachment to our House. After shooting a few brown and yellow Piasoccas—a species of snipe—and partaking of some coffee, we took leave of our kind-hearted countryman, with a cordial shake of the hands. M. de Luze and Mr. Theremin rode on before, in order to arrange our quarters at the Aldea da Pedra.

In the midst of the forest we came to a small green valley, called Ribeira das Areas (Sandy Stream). Dr. Dennewitz stopped at the house of one of the best huntsmen in the country, and desired him to join us the next morning at Aldea da Pedra. As we were looking around for our companions, who had preceded us, our glance fell on the Parahyba, gleaming like a silvery streak through the lofty dark trees on our left. We approached its bank, and followed with our eye its course through the forest. It is a magnificent stream, about the width of the Rhine near Coblentz: islands, covered with bushes, are scattered about, and some shrubs appearing just above its surface, as if drowned in its waters, presented a curious appearance. The summit of the dark Morro da Pedra, resembling a truncated cone, overtopped the impenetrable forests and wooded hills, behind which the sun was just setting, reflecting his last rays in the waters of the Parahyba, and suffusing them with an orange light.

A string of chained negroes passed us on the small path; next we met a civilized Indian (Caboclo), and soon after came to some mud-walled huts belonging to the Indians, which are scarcely distinguishable from the other habitations in this part of the country. Riding along the river, over a marshy meadow, we approached the hamlet of Aldea da Pedra, consisting of a few houses, which crown the ridge of a hill projecting toward the Parahyba: a church rises above it on the right. Darkness began to set in, as we dismounted at the venda of Louis Dépanier, who quickly made himself known as a *quondam* Prussian soldier in the Rifle Guards.

Soon after our arrival I received a visit from the priest, Fray Florido, a Franciscan from Florence, who was settled here. He was very friendly, and promised to conduct us himself to visit the Indians on the opposite bank of the Parahyba, with whom he was in frequent intercourse, having baptized many hundreds among these wild tribes, and effected their settlement in this country.

Though late in the evening, Dr. Dennewitz assembled the huntsmen of the place; it was agreed that the next morning we should have a tapir hunt, and the day after pay a visit to the Indians, of whom the worthy priest gave us an interesting account. We fell asleep, dreaming of tigers, antas, Indians, parrots, forests and rivers.

October 6th.—On awaking this morning our prospects for the chase were gloomy enough; we were told, that a tapir hunt could not be arranged until the next day,

which was the one appointed for a visit to the Indians. I gave the preference to the latter excursion, and at an early hour paid a visit to our friend the priest, whose spacious dwelling was also adapted for the accommodation of strangers. He showed me many articles which he had received from the Indians, and very kindly gave me several of them as a souvenir; among the rest a wooden figure of an angel, carved with a stone knife; and the skin of a water-animal, which the Padre had received from an Indian, a hundred and forty years of age, who had shot it himself, and never remembered to have seen a similar creature; these people indeed have no name for it. He also gave me a piece of black resin, collected by the Indians from certain trees, which, with a wick passed through it, will burn for a whole night,—and lastly a large feather, from a bird which has a horn on its beak; together with a tree fungus, given by the Indians to the priest as an extreme rarity.

Regardless of the great heat, we went an excursion to hunt veados, but did not succeed in killing any; however we shot some birds, and gained at all events an excellent appetite. The Padre dined with us, and accompanied us afterwards to the lonely church. The view thence was magnificent, commanding the course of the Parahyba, with its numerous islets and rocks, and on the opposite bank a view of the Morro, brilliantly illumined by the setting sun.

The Padre conducted us to an Indian hut, just below the church: it consisted of a straw roof supported by four posts, and was inhabited by a family of Coroados.

From the posts were suspended four small net-like hammocks, reaching nearly to the ground. An old woman, eighty years of age, was sitting, half-naked, in one of these hammocks, playing with a little naked girl, and warming her bare feet over some live embers in the middle of the hut. Vessels made of the shells of the Sapucaja were standing about. To the hut was attached a small building, slightly built of clay, after the manner of the country. A pretty young Indian girl, Joaninha, who seemed afraid of us, was busy in this room, and only approached to receive some glass beads which Oriolla offered her.

We again passed the evening with the Padre, who told us many interesting particulars respecting the Indians, and his labours among them. The Coroados, who are now located around Aldea da Pedra, have been driven from the opposite bank of the Parahyba by the Puris, who were themselves forced along by the warlike Botocudos, now settled on the Rio Doce. The chieftain of the latter tribe was baptized by our friend Fray Florido, and went afterwards to Rio to beg some agricultural implements from the "Gran Capitão," as the Emperor is called. The Padre told us that he had baptized about nine hundred Indians,—six hundred and fifty of the Coroados tribe, one hundred and forty of the Puris, and twenty families of the Coropós, together with a number of Botocudos. Fray Florido has lived and laboured for sixteen years at Aldea da Pedra, but he had still to remain another year, before, according to the strict rules of his Order, he could return to

his native land. The first missionary, who preceded him, arrived at Aldea in 1804; but S. Fidelis has been a missionary station ever since 1779.

Before stretching ourselves on our *esteiras*, after the priest had left us, M. de Luze performed the charitable office of extracting a "bixo" (*Pulex penetrans*) from my foot—the first I had seen. This species of flea nestles in the flesh under the nails, often penetrating deep, and depositing its eggs beneath the skin, where it multiplies so rapidly, that many a negro, from not removing the insect in time, has lost an arm or leg. Talking about such disagreeable guests just before going to sleep seemed to conjure them up, for no sooner had we extinguished the candle than a "Carapato" created a disturbance in the whole venda.

October 7th.—The first thing we did on rising this morning was to bathe in the Parahyba. This was the day fixed for our visit to the Puris with the Padre: we took leave of our friendly host M. de Luze and Dr. Dennewitz with regret; the latter fired a salute, as our canoe—which was merely the hollowed trunk of a tree—stemmed the strong current of the Parahyba; M. de Luze calling after us, "Nous manquons de poudre pour les vingt autres!" With the exception of the discomfort of our squatting position in the canoe, unprovided with seats and which the slightest motion put out of trim, our passage among the islands, covered with shrubs and bushes, was charming. Here and there single trees projected almost horizontally from the thicket, whilst the bushes bent in a kind of arbour over the water, and the

current broke foaming against the rocks, which were scattered about the river; on the opposite bank these consisted of granite. We had to wait a long time for the horses, which were ordered to meet us here, but patience is indeed a virtue frequently called for in Brazil! The saddles we had brought were put upon the animals, and away we rode into the forest, the Padre taking the lead. His yellow, turret-like, Chilian straw-hat set off his friendly, dark-brown features and long reddish beard: the great heat gave his face an expression of suffering, and he appeared to labour under the inconvenience arising from his weight of flesh. In place of the usual cowl, he wore a brown cape, near the lower edge of which some coloured robes peeped out, tucked below into a pair of brown Minas boots, which reached above his knees. The priest was mounted on a sturdy, white mule, and carried a thin switch, dangling negligently in his right hand,—a sure sign that we should not make much progress today. Our cavalcade presented a faithful picture of the time of the Thirty Years' war,—the priest at the head, followed by his small troop, all accoutred in jack-boots *à la* Wallenstein, with guns slung at their backs and part of them with broad-brimmed, grey, Marseilles hats, vying in originality with the straw hat of the Padre. Two persons only, who had joined our troop, formed exceptions to this picture,—the negro belonging to the priest, and an amateur of the chase, from whom we had hired our horses and mules.

We passed in succession two valleys, stretching into the forest; the first, a small one planted with capueira,

plantains and coffee, run wild from neglect; the second consisting of meadow, with a fazenda, encompassed by wood. Scarcely perceptible heights surrounded us, and magnificent crimson Sapucajas grew at the edge of the forest. We turned from the meadow to the left, and, after about an hour's ride from the bank of the Parahyba, stood under the shade of some high trees beside the Rio da Pomba * (Pigeon River)—a stream certainly not wider than the Spree—which forms the boundary of Minas Geraes. We crossed it in a canoe, taking our saddles with us, while the horses and mules swam over the stream. The opposite bank is higher and projects; upon it stood some mean-looking houses, with a little cultivated land around them, and a tract of cleared ground stretching at the back. Here again the magnificent Sapucajas reared their heads, like gigantic flowers,—a wonderful spectacle, which will form one of the pleasing reminiscences of this journey.

On reaching the other bank we saddled our beasts, and, guided by the fat proprietor of the adjacent houses, went to visit the huts of some Indians, who work for pay in the valley. On our way we met Johanna, an old woman a hundred years of age; she had veiled her tawny and venerable charms in a dirty garment, so that we could raise our eyes to gaze on this monument of

* The course of the Rio da Pomba seemed to me erroneously marked on the Mannheim map, which I have before mentioned; I believe this river falls into the Parahyba *below* Aldea da Pedra. Moreover only a small, muddy rivulet falls, on the right bank near Aldea da Pedra, into the Parahyba, which cannot be the Rio Negro or Bosarahy.

past days without a blush. She was leading two children by the hand,—probably her great-great-grand-children! Our reverend conductor told us that she had lived to see four or five generations; but he believes there are Indians in this tribe who have witnessed as many as six, and hence he infers their age to be from a hundred and forty to a hundred and sixty years. The absence of excitement and passion in their way of life, together with their simple fare, seems greatly to favour this longevity. These tribes of south Brazil are by nature indolent and lazy; their sole occupation seems to be sleeping and eating, and they resort to hunting and fishing only when compelled by hunger. Those who still reside in the forests, live on fruits and roots, which they roast in the ashes, while those who live in the vicinity of the fazendas and aldeas cultivate a little mandioca and a few bananas, or hire themselves, as in the present case, as labourers upon the Roças.

We soon reached the Roça of which we were in quest. The trunks of gigantic trees were lying about, on the plantation, which was close to the border of the primeval forest. In the midst of it was a hut, seemingly built by the proprietor of the land for the Indians: the exterior had quite an European appearance, but the inside was fitted up in the Indian fashion. The first sight that met us was a woman stark naked, who no sooner saw the missionary at a distance, than she quickly donned her shift and slipped into her hammock. The aged Methuselah however, the oldest among the converted Indians in this district, did not imitate her example, but re-

mained lying unconcernedly in his hammock, in the state of primitive innocence, and staring at us with perfect apathy. The offer of a few copper coins however seemed to produce an effect on him: he took them, but instantly turned round, and did not vouchsafe us another glance. Several Puris one by one made their appearance, assembling before the door of the hut. Around lay strewn a quantity of red and blue feathers, as I suppose from a macaw (*Ara*) that had just been picked.

The colour of the natives is a dark brown: they are not exactly ugly, though they have in some degree the features of the Kalmucks, with high cheek-bones and an expression of stupidity. Black hair—which is only of a lighter tint in some of the children—falls matted over the shoulders, and is cut before and behind in a straight line, like that of the Russian peasants. The Puris and Coroados are mostly of low stature, with usually a prominent abdomen: still it cannot be said that they are on the whole ill-formed. Almost every Indian had put on clothing of some kind. We purchased from these people bows and arrows, and also a *rede* or hammock; they treated us with nuts of the Sapucaja, roasted in the ashes. Afterwards we visited another hut in the forest close by, very picturesquely situated and built quite in the Indian fashion. It consisted of a simple framework of poles, covered with leaves of the prickly palm, forming a more oblong and much larger square than the hut of the Coroados which we saw yesterday. The hammocks were here suspended about a foot and a half from the ground, and we observed the same kind of vessels as in

the other hut. Some Indians in trowsers, and a few even drest in shirts, were squatted round the fire. A gun, with bows and arrows, were leaning against a post: two slender trees had been bent down, on one of which some clothes were hung, while a pair of tame parrots were pacing demurely backwards and forwards upon the other. On entering the hut, we observed a woman and a savage-looking man, resting in their hammocks: this seems to be the favourite mode of passing the time with these Indians, and they gave us the impression of feeling shame at being visited.

Generally speaking the Puris of the Roça did not answer to our expectation; they were estranged from their natural state, and an instance of this we noticed in their preferring copper coin and even paper-money to the glass beads which we offered them. We soon took our leave, resolving to pay a visit to another tribe of Indians, inhabiting the Serra das Frexeiras, distant about twelve to fifteen leagues, and who lived, as we were told, in a perfectly savage state. We therefore returned to the banks of the Rio da Pomba.

Our worthy guide the priest toiled on in the sweat of his brow; he began to throw out hints that dinner was waiting for us at Aldea da Pedra, that the Indians of the Serra were too far distant for us to think of reaching their abodes today,—and concluded by observing, that it would be well to breakfast first, and then return home, "where," he added, with a foretaste of the feast, "our dinner awaits us, with a surubim to boot, the most delicious fish that swims in the Parahyba,

caught fresh this morning." The reader may imagine that it cost the poor Padre not a little to yield with Christian resignation to our desire, of relinquishing the tempting repast he had *in spe*, and accompany us to visit the Indians of the Serra, where we intended to pass the night. Fray Florido mastered his appetite, and heroically submitted to his fate: this was fortunate for us, as without our reverend guide the timid Indians would most probably have fled at our approach. We pushed on at a good trot, to the Fazenda das Frexeiras, near which place we meant to take refreshment. The situation of this solitary house, upon a meadow surrounded with wooded hills, and commanding a view of the distant Serra das Frexeiras which rises above the tops of the trees, enveloped in light-blue mist, is delightful. The proprietor of the fazenda kindly not only contributed an addition to the cold breakfast which we had brought with us, but gave us also cloaks and blankets for our use during the night. Thus equipped we began our ride in the direction of the Serra, guided by observing that the side of the Morro da Pedra turned from the Parahyba was now at our backs. Before we reached the forest, the owner of the horses and the Padre's negro secured another horse from the pasture, for Count Oriolla, leaving behind his old stiff grey in its place—certainly a very simple proceeding!

Following a small picada, we entered a magnificent forest. Great as was the difference between the forests of Corcovado and those of the Serra of Novo Friburgo, the contrast between the latter and the majestic primeval

forest through which we were now passing appeared equally striking. We now for the first time realized the feeling of being in an entirely wild country: the few and deep marks of horses' feet soon disappeared, and there were no traces of the ground having been travelled over. We proceeded with great difficulty, the low branches and thick creepers obliging us continually to bend and stoop, while the numerous trunks of trees lying prostrate across the path, put to the test the skill of our beasts in surmounting these obstacles. We frequently also came to immense trees, uprooted by the storm, and held suspended over our heads by an entangled mass of creepers. The lianes (*Cipos*) sometimes appeared twisted like ropes; at others they resembled chains, covered with leather: here they were interlaced in folds like serpents, or there, hung down from the highest branches like pointed beards, reaching to the thick, tangled mass of plants which covered and quite concealed the ground. The trees were of a colossal height, apparently seldom less than from a hundred to a hundred and twenty feet, and, although of considerable girth, they gave quite the impression of being slender.

After proceeding some way through this charming forest, we observed in the thicket under some magnificent trees an Indian hut, covered with palm-leaves, and soon again another, equally picturesque. We halted under a tree, from which we shook down a number of Jabuticabas,—a fruit resembling a black cherry,—which were refreshing; and then rode on, through a shady, arched avenue of Heliconias, more than twenty feet high,

which bent their gigantic leaves over our heads, fanning us most agreeably. This lovely wild scenery was occasionally interrupted by clearings, which the proprietors had turned into Roças, by the labour of half-civilized Indians. Here and there too we came to a small house, and saw with regret that we were not yet in a perfectly savage region. These clearings however had a certain interest and charm: the number of felled trees, with their enormous roots, which lay in tangled masses on the ground, formed a picture of wide-spread desolation which produced a powerful and peculiar impression on the spectator. As huntsmen too, we were amused to see how quietly the horses climbed over one tree after another, at which our eager hunters at home would probably have stopped short. From one of these cleared spots we had a beautiful view of the Serra das Frexeiras, rising to the left above the forest, and clothed in a ruddy hue by the evening sun.

The forest soon after became again thicker, until, shortly before dark, we arrived at a large open space, close to the foot of a rising ground, upon which stood a clay house with two adjoining huts. We had reached our destination! Interesting as the journey had hitherto proved, our expectations were now greatly disappointed. Instead of entering a large camp of Indians, the smoke rising from a few fires on the skirts of the forest promised no such spectacle. Our curiosity was nevertheless great, but the poor Padre was too much exhausted to satisfy it immediately: all his thoughts were absorbed in one subject—the speediest way of relieving the pangs of hunger.

Many a time on the road we heard the poor man sighing and ejaculating, "Ah! aquelle surubim!" Suddenly he became all agility: he roused the negro of the house, and the Indian female servants, and ordered his own negro to ride off in quest of fruits and coffee in the neighbourhood. These arrangements being made, he was now persuaded to accompany us to two Indian huts in the adjacent capueira, similar in appearance to those before described. On our way we met the Capitão of the tribe, which comprises forty to fifty families: he passed us at a short distance, naked as when born. Fray Florido called to him, and he came up to us,—not however before he had quickly slipped on a pair of trowsers. The Padre told him that we were anxious to witness one of their dances that evening, and requested him to collect his tribe in front of the house; having done so, he hastened on before, to expedite the arrangements for supper.

The sun had set, and the moon was just rising, as we reached our night-quarters. There stood the worthy Padre before the door, plucking a fowl, with a visible expression of anticipated enjoyment. Now came the first act of the supper, during which the owner of the horses and the negro of the house, the black ruler and manager of the fazenda, were busied in making a fire. The Indians soon began to assemble, and kindled small heaps of faggots close to the large fire, as they are used to do in their huts, around which they squatted, warming their feet. It required much persuasion from the Padre, and many a good-natured joke from our horse-jobber, before three men could be induced to commence the dance, hanging their heads as if from a feeling of shame. The

Capitão took the lead, and the two others danced sideways behind him. The dance consisted of a waddling motion, backwards and forwards, accompanied by a monotonous nasal chant: it was intended to depict figuratively a contest between the Anú and a bull; another exhibition represented the Caitetu, or wild-hog, roaming through the forest; these at least were the explanations given us by the Puris themselves. The Indian ladies, who were all drest in a kind of shift or tunic, kept in the background, seated around their fires, and would not take part in the dance: an old man sat in the midst of them. All other persuasives failing, Count Oriolla distributed some brandy among the Indians, which induced two or three more of the men to join in the dance. After a time some of the women formed a row behind the men, but without stirring a foot. The second act of the supper, which the Padre seemed to conjure up as if by magic, being concluded, glass beads were distributed among the dark beauties, who nevertheless gave the preference to Count Oriolla's brandy-bottle. None of the Puri women were as pretty as the Coroado girl at Aldea da Pedra, though they were not so ugly as I had imagined from the representation of the Puris' dance given by Spix and Martius.

Count Oriolla remained for the night in the chieftain's hut, while the rest of our party slept in the house. Our saddles served admirably as pillows, and we used them for this purpose almost every night. The negro and horse-dealer continued joking together for some time, till at last the latter taking his guitar soon lulled me to sleep.

October 8th.—Day had scarcely dawned, when we were all on our legs, and busily employed in preparing

for our departure. The first thing was to catch the horses in the capueira, which detained us a long time, from the darkness that still prevailed in the forest, and it was six o'clock before we started. We took the same road by which we had come the previous day. The weather was at first doubtful, but it gradually cleared up, and we enjoyed the aspect of the magnificent forest, unsurpassed in beauty by any we have seen in the course of our travels. Here we first made acquaintance with the Araras, or macaws, a flock of which flew high over the tops of the gigantic trees, with deafening screams.

Before reaching the skirts of the forest, we turned to the left and went up to one of the Indian huts which we had noticed yesterday: we found two, situated on a small spot under lofty trees, interlaced with lianes, whose picturesque appearance induced us to sketch them. At the first barrier across the road behind the Fazenda das Frexeiras, we met Count Oriolla's grey mare, which had been stopped here in attempting to run home. A second exchange of horses took place, and after this we bade adieu to the province of Minas, and crossed the Rio da Pomba, just as a raft guided by Indians was floating past.

We stepped ashore at eleven o'clock, near the venda of the "Rifle-guardsman" at Aldea da Pedra, somewhat disappointed with our visit to the savages. The sumpter-mules were immediately loaded, and we then assembled at dinner, at which the priest presided. The long-desired surubim was now served up, followed by another fish from the Parahyba called piabanha, with

other dishes which the Padre had ordered to be prepared in his own house. Delight and satisfaction beamed in the features of our reverend friend, whose enjoyment of the repast seemed to atone for the pain of its delay; and I was involuntarily reminded of the charming aria, "Je suis content, je suis heureux," in Auber's opera of "Le Dieu et la Bayadère."

We took leave of this friendly man with grateful hearts, and left the Aldea da Pedra—it was already one o'clock—at full gallop and in high spirits. We soon however halted outside the hamlet, to collect our little column, and profited of the delay to ascertain by the compass the direction of the Serra das Frexeiras: finding that it lay exactly north-east of Aldea, we now followed the banks of the Parahyba toward S. Fidelis, distant eight leagues. The estrada real, which was here a mere foot-path, led at first through a portion of primeval forest, which is impressed on my memory from seeing here for the first time a group of the upright, columnar cactus, about twenty-five feet in height. The path rarely diverged so far from the flat bank of the Parahyba, but that the water was visible between the trunks of the trees. The virgin forest was soon succeeded by capueira, which lay between the high woods and the banks of the river. Flocks of parrots were flying around us; my servant succeeded in shooting one, and I myself soon after brought down my first parrot! We now came to an extensive cleared space in the forest, stretching along the Parahyba, which here presents a peculiar and picturesque appearance. Large masses of rock, forming reefs and clothed

with vegetation, followed the course of the broad stream, and alternated with charming islands, mostly of an oblong form, which might be called enchanted isles,—so magical was the aspect of the magnificent palms and crimson Sapucajas which rose above the mass of foliage. A lofty range of hills, on the opposite side of the river, covered with wood, formed the background, whilst the forest on this side was also traversed by hills. Some Tropas were encamped on the banks of the stream, and numerous water-birds, especially the brown and yellow Piasoccas, were flying about in large numbers, or resting on the stumps of felled trees.

The country gradually became more open. The first large sugar-plantation, with an engenho in the centre of it, extended along the river. The forest ceases altogether on this side of the Parahyba, and the hills on the right were covered with grass. How rejoiced were we at reaching this open country, where, the first time for so many days, we were again able to enjoy the view around! Beautiful as are the woods in these regions, one feature is missing, which the eye and the imagination require—a prospect. This evening the view was really charming: every instant the forms of the mountains on the opposite bank of the river seemed to grow in beauty; and what more lovely foreground to the picture could we desire than those isles of palm-trees?

We now trotted briskly over some large meadows, intending to cross if possible before dark the "Rio dos dous Rios" (the River of two Rivers), formed by the junction of the Rio Grande and Rio Negro. The note

of the yellow Bemtevis, with their incessant cry—"Bem-te-vi"—now succeeded that of the Piasoccas. The bed of the Parahyba was at times narrow, at others wider; the stream also made several large bends, which distanced for a time our straight road from its course. Wooded hills soon after again descended to its banks. Suddenly we found ourselves on a cross-road, and following a turn to the right, we left the Parahyba, and passed the small stream "Dos dous Rios," in the same manner as we had done the Rio da Pomba, which is of about an equal width. On the opposite bank stood a single house, belonging to a Swiss, behind which and above the primeval forest rose a high hill, tinged with a red colour by the last rays of the sun. In consequence of the delay caused by swimming the horses across the river, and disembarking and re-fixing the saddles, we did not enter the forest until after darkness had set in. We were now in the same predicament as on our ride by night from Novo Friburgo to Cantagallo,—left without any person acquainted with the road: in fact the two nights resembled one another, but that it was now easier to find our way, assisted by the rising moon.

Emerging from the forest, on a mountain-ridge, we saw the Parahyba again, and unexpectedly met the sumpter-mules that had preceded us, upon a road leading past some detached houses. In a few instants we were in the main street of S. Fidelis, a place rather larger than Aldea da Pedra, and after many inquiries succeeded in obtaining a small lodging for the night.

October 9th.—We quitted S. Fidelis at six o'clock, just

as the day began to dawn. The country hereabouts assumed a character which reminded me of home; the Parahyba too resembles a German river, flowing through meadows, margined by hills. A small coffee-plantation, which we passed at the beginning of our route—cocoa-nut-trees, with short, thick and scaly trunks, standing singly or in rows, their branches spreading in a form resembling the glory around the head of a Saint—these objects, and a few solitary orange-trees, covered with golden fruit, and surrounded with parasites like a spider's web, formed altogether a picture which reminded the traveller every moment that he was in a tropical region, though without weakening the general impression.

At a short distance behind S. Felis we passed through the Rio Preto, a little above its junction with the Parahyba. A fine Serra approaches the river on its opposite bank: it consists of a precipitous hill, resembling the steep side of the Hammerstein, near the Rhine, but crowned with wood, and followed, parallel to the course of the Parahyba, by a range of little Hammersteins. The banks of the river, along which we rode, now began to rise, and we looked down upon the stream, directly below our narrow slippery footpath, which, scarcely discernible, led over smooth ledges of rock: this is here called an estrada real. We then cut our way across a swampy tongue of land, around which flows the Parahyba,—looking about anxiously for crocodiles in the morass, but in vain. Next we passed a hill overgrown with capueira, and descended on the opposite side, crossing a meadow, to the fields of sugar-cane on the banks of the

river. At about nine o'clock we halted for a few moments at a venda, and after taking a little rest and refreshing ourselves with some water and goyabada, we continued our ride under a hot sun. The islands of the Parahyba gradually lost their charm; capueira and low bushes succeeded the palm-trees, and Sapucajas and sand were now seen upon their banks. Before us extended a large, fertile plain: on our left rose a pointed hill, and on the right, three hills with rounded summits,—the last spurs of the mountain-range, which higher up gives such an interest to the banks of the Parahyba. We passed large fields of sugar-canes, with fazendas, and were struck by observing the houses furnished with windows,—a sight which we had not noticed for many days. Then followed extensive pastures, with cattle grazing on them; in a word, we had entered the Campos dos Goaytacazes. The road now became a track through the open country, enclosed between two hedges, thirty feet apart: the clayey soil, which had been almost uninterrupted since we left the Macacú, was now partially superseded by sand.

The animals were so fatigued that all our efforts were unavailing to keep them up to a trot; even my Sevilie cane had lost all power over the "Botocudo," which was completely worn out, and the spurless heels of my boots vainly stimulated the flanks of the poor beast. The heat grew more and more oppressive, and our longing increased at every step to reach the "Cidade,"—S. Salvadõr dos Campos dos Goaytacazes,—a distance of ten leagues from S. Fidelis: no sign of it was yet to be seen. The

Parahyba too was for a long time lost to sight, and with it disappeared the last charm of this monotonous, flat country, which on the whole did not please us: we missed the mountains, and the magnificent trees of the primeval forest. At length we again reached the river, its banks lined with a row of houses: this was the suburb of the Cidade, and our little cavalcade entered it at half past three o'clock, P.M. in good order, though we had travelled seventy leagues with the same animals.

Campos, although according to our German ideas a small town, produced quite an impression of stateliness. The aspect of the Quay bespoke considerable commerce, and venda followed venda: in one of these we procured lodgings, and in another we dined. As soon as the authorities heard of my arrival, they waited on me, in spite of my incognito, and placed the residence of the Xefe de Policia at my disposal. I declined this polite offer with many thanks, and paid a visit to the Xefe de Policia in the evening, shortly before our departure: he regaled me with tea, and I remained with him until the two canoes were ready, which one of the inhabitants of S. Salvadõr, with true Brazilian hospitality, had offered me, for my further progress down the stream to the neighbouring Barra of the Parahyba. It was our intention to embark there on the steamboat, which was to leave at eight o'clock the next morning for Rio, and with this view we had disposed of our horses on favourable terms at Campos.

At nine o'clock the canoes pushed off: they consisted of the trunks of two immense trees, with a kind of

roof formed over the hind part by hides stretched upon twigs. A negro steered with a paddle, and two others rowed in the fore-part of the boat, or pushed us along when we came to shallows. Such a canoe draws about six inches, and costs fifty milreis.

A bright moonlight succeeded the rain this evening, and gave a romantic charm to our night voyage on the magnificent American river. Crossing repeatedly from one side to the other, we laid the broadside of the canoe to the stream, in order to float along faster; the consequence of this however was, that we continually heard the boat grating upon sand-banks, and even stuck fast upon some of them. On approaching the banks, we observed at times the forest stretching along them, but more frequently nothing was to be seen but the steep sandy cliffs which skirt the river.

October 10th.—It was two o'clock this morning when we landed on the right bank of the river, at S. João da Barra (also called S. João do Parahyba, or da Praya), distant seven leagues from Campos. The authorities of the place disturbed our peaceful sleep as early as seven o'clock; we had lain down on the bottom of the canoe, covered with mats, this kind of boat being unprovided with benches. They conducted me and my companions to a handsome house, where we rested for a short time, dressed, and partook of a good breakfast. S. João is the port of Campos, whence coffee, sugar, and wood,—principally Jacaranda,—are shipped in large quantities. Slave-vessels also frequently land their cargoes of blacks in the neighbourhood, whence these unfortunate beings are

driven into the interior, and sold in security at negro auctions.

Being positively informed that the steamer would not start until nine o'clock, we did not set out till seven, directing our course in the two canoes to the Barra, at a short distance. A great bend in the river, between an island studded with sugar-plantations and the right bank, was soon passed. The Parahyba flowed majestically on its course toward the sea, about the width of the Elbe near Gluckstadt; and its green, wooded banks reminded me strongly of the Elbe near Dessau and Torgau. Before us on the right and close to the shore, which is covered with coppice, the trading-vessels were anchored in a long line, but the steamboat which we expected to find among them was nowhere to be seen—it had already started! A sailor, whom we sent to the topmast of a brig, saw the smoke in the distance. For an instant we thought that she was merely cruizing before the bar; but this hope vanished, when the man called out, "She holds on her course!" Thus then we were left behind, without any blame attaching to us: the captain of the steamer had sailed an hour and a quarter earlier than he had announced to the authorities: in fact we were on the spot an hour earlier than we had been told was necessary.

The only thing now to be done was to find a vessel bound for Rio, and we fortunately soon met with a Brazilian sumaca, 'O Novo Tejo,' which was to sail the next morning. While Count Oriolla was seeking the captain on shore, I rowed in the canoe with Count Bismark a little way down the stream, until we distinctly perceived

the sea breaking on the Barra. The water was still fresh just above the bar,—a fact which Dr. Lippold also noticed near the Barra do Rio Doce. After this little trip we returned to the 'Novo Tejo,' where I witnessed the service on board these Brazilian coasters: the mate gave orders which indicated a speedy departure, and, while the negroes performed the whole work, the few whites looked on.

Count Oriolla soon returned, and everything seemed arranged to our satisfaction. From the want of room in the sumaca we preferred dining at a venda, near the end of S. João da Barra, and then, after a short promenade, we retired to rest, being first informed that the 'Novo Tejo' would not leave so early, but that the schooner 'O Judeo' was to sail instead.

October 11*th*.—We found this morning that the weather had changed, and resolved therefore to prefer the journey overland to the sea voyage: the wind had veered round to the south-east, though, according to Horsburgh, the south-east trade wind changes in this half of the year with a southern current into a continued N.E. and E.N.E. wind; whilst from March to September the generally prevalent S.E. wind with only occasional slight deviations toward the S.S.E. extends with a northern current to the Brazilian coast. The Delegado, after consulting the pilot, added, from his own experience, that the wind in April and October, instead of blowing from the N.E. and N.N.E., frequently shifts suddenly for three or four days to the S.E., and that the drift of the clouds today seemed to confirm the probability that this wind

would now continue for such a duration in the same quarter. It was therefore obvious that, reckoning the time we should be detained, the route would be much quicker by land than by sea, and the more so as just now the low water in the river might occasion still further delay. It was moreover of the greater importance for me to lose no time, as I was under the impression that the 'Growler' was waiting for me at Rio, and I scrupled to detain her from her regular service unnecessarily. But how to get horses for our projected journey, having disposed of our own beasts, was the question: this caused no little perplexity; we had however soon offers of assistance: Antonio—a brother of the captain of the 'Judeo,'—came forward, and undertook to conduct us in three or four days by land to Rio; for which service we had to consent to hard terms, as will be seen in the sequel. We left our baggage on board the 'Judeo,' and the 'Novo Tejo' received all the provisions which had been purchased for our voyage; but in order that the crew of the 'Jew' might also have a share of the dainty fare, with them was left the pig!

These arrangements being concluded, I started at ten o'clock, with the Delegado Jozé Martim and a Senhor Faria, on a short excursion up the Parahyba to a fazenda, situated upon the island before mentioned as being so richly studded with sugar-plantations. The resemblance of the stream to the Elbe struck me again forcibly today: the few palms growing upon the opposite bank or on the islands were concealed among the other trees, so that the difference of vegetation as seen from the river was

less observable. Low bushes covered the downs in the direction of the bar, and among them were growing a species of the large dwarf-palm, a plant resembling the pineapple, and a few Agavas. Beside the canoës I have already described, the river is navigated by others of a peculiar construction,—large boats, manned by blacks, and provided with a yardsail of immense size. But we must now turn to the sugar-plantation, and give a description of the Engenho.

Under a slight shed, four oxen yoked to long poles, and walking round and round in a ring, turned a simple wheel, which put in motion three upright, iron-plated rollers or cylinders, similar to those we had seen at Aldea. On one of these poles sat a negro boy, who directed the beasts with a long stick. Two other blacks were busied in drawing the cane, with their hands, through the two spaces of different sizes between the rollers,—first the larger and afterwards the smaller. The juice, thus expressed, is conveyed to the first and largest of three boilers, standing close together, in which it is mixed and boiled with the "quada," a fluid consisting either of "guararema" and water or lime-water, or of guararema mixed with lime. From this first boiler the liquor is conveyed by means of cocos ladles to a second, and afterwards to a third, which last is the smallest of the three: here it is boiled again, until it acquires a greater consistency. The liquor in the first boiler is the colour of sulphur, in the second it is of a dark yellow, and in the third of a brown colour. The scum which rises in boiling is used for distilling cayaça, or brandy. From the

third boiler, the sugar, which is now extremely thick and called "melaço," is conveyed into the trunk of a tree hollowed out, the cooling-tub, where it is stirred with a piece of wood. The melaço is afterwards put into wooden or clay filters, with a hole at the bottom, which is at first closed. The sugar crystallizes in these vessels, and a layer of wet clay, placed on the top of the filters, absorbs the brown colouring matter of the sugar and leaves the latter white. The fluid which drains through is also used in the preparation of caxaça; this is accomplished by putting the juice obtained by skimming and draining into barrels, where after a time it undergoes fermentation, and is then run into coolers. At Aldea the juice of the sugar is mixed with lees, to increase the fermentation. The sugar-cane from which the juice has been expressed serves for fuel, the fresh cane alone being used as food for cattle.

After inspecting the Engenho, we went to see a field of sugar-canes. The upper part of the cane serves as cuttings for propagation or planting other fields. In fertile soils the sugar-plant remains sometimes for fifteen years in the ground, the stock producing a succession of new sprouts, all that is required being to replace some of the old stumps; but common or poor soil, as on this spot, must be replanted every year, some say every second year. The sugar-cane reaches maturity in a year; it only requires to be weeded at first, when young; at a later period, when increased in size, the cane chokes all weeds.

We returned from the Fazenda to the venda at S. João da Barra, where some gentlemen of the place dined

with me. In the evening, a party of the inhabitants, with Senhor Faria at their head, treated me to a serenade, and some Germans afterwards paid me a visit, accompanied by a Dutchman. We all sat on the bench near the large table in the inn parlour, and a tea-party concluded the day, after which I retired to my little chamber, and presently dropped asleep on the esteira.

October 12th.—I was roused from my sleep at two o'clock this morning, and we soon after went in the dark in search of the yard where Antonio was waiting with the horses to conduct us to Rio de Janeiro,—a distance, according to his account, of sixty-six and a half leagues (fifty-five German or two hundred and fifty-five English miles)*. The saddling and packing however took so long a time, that it was four o'clock before we started, in a drizzling rain and Egyptian darkness.

At daybreak we came to a large meadow, on which grew here and there a few shrubs, and among the rest some extremely tall, columnar cactuses: we also observed another species, with large white flowers, more beautiful than we had ever before seen. On our right flowed the Parahyba,—before us lay the mountains in the direction of Aldea da Pedra, and cattle were grazing around. It was now just light enough for us to distinguish our animals clearly: these consisted of

* According to the accompanying map of the Province of Rio de Janeiro, in constructing which Mr. H. Mahlmann has employed the map of this country by Freycinet, the distance is only fifty-four and a half leagues,—about forty-five German or two hundred and eight English miles.

nine small horses, with long tails, cut straight in the newest fashion,—seven saddle-horses for ourselves, our two servants and the guide, a reserve bay horse, and a pack-horse. Four of these beasts promised well enough, and among them my little roan had a fair claim to a good word: the same might be said of Antonio's bay, which we were obliged to follow at a short jog-trot. We continued at this pace, almost without intermission, until within a few leagues of Rio,—no easy matter truly, to ride about five-and-forty German miles at a stretch at such a pace! Urgent reasons however obliged us to lose no time. In order not to detain the 'Growler,' which, as I have said, we calculated must have already reached Rio, I had resolved if possible to accomplish our journey thither on horseback in as short a time as if we had gone by the steamer. Antonio had engaged to conduct us to Rio in three or four days, and on our part we had been obliged to agree to numerous very troublesome conditions, our non-fulfilment of which would release the guide from his share in the engagement. Among other stipulations, the Arrieiro had bargained for the exclusive right of making all arrangements on the route, settling the time and places of halting and resting, and even the pace of the animals. We had engaged to follow implicitly all his directions on the journey, and for these three or four days to surrender all will of our own. To this sacrifice we were obliged to assent, in order to render an apparent impossibility possible.

Our small troop proceeded over the meadows in close column, and at a uniform pace. Antonio, in his blue

sailor's jacket, set with buttons displaying the eagle and anchor of the American navy, and in jack-boots, jogged on silently before us, in the heavy, damp, morning air, dragging after him one of the two emaciated reserve horses; each animal in turn stepping in the footmarks which Antonio's beast left in the slippery soil. Several hours passed thus, when the Arrieiro suddenly halted, and dismounted,—we all followed his example. The horses were here turned out to graze in a small field, and in ten minutes we resumed our journey. We passed in succession several fazendas and sugar-plantations, situated on the banks of the river, and also met a sledge, to which six oxen were yoked, similar to those we had seen at Madeira. Large brown and white aquatic birds, which we had observed from time to time, now became much more frequent: the cultivated and inhabited banks were in parts more covered with underwood, but we observed scarcely any trace of palm-trees.

At length, about eleven o'clock, Campos lay before us: we hailed the sight with joy, for we, as well as our horses, showed evident symptoms of fatigue. The view of this town was more picturesque from this than the opposite side, the blue mountains forming a background to the picture. Our road lay partly through and partly around the town, which, judging from the detour we had to make, cannot be very small. We here turned into a venda, and partook of some chicken-broth, while the horses were baited with milho and sugar-cane: we also procured two pair of clumsy brass spurs, with which to stimulate the spirit of our beasts in case of need.

Here we rested till one o'clock, and then resumed our journey.

It was amusing to observe Antonio's movements, making his way through the deep muddy soil, cleverly avoiding the worst spots, and never passing the smallest puddle without cooling the feet of his horses and stopping to let them drink. At first our way led along a broad carriage-road, between hedges, over meadows and pastures, frequently passing through copses by the side of sugar-plantations and fazendas. In a short time we crossed the little river Imbé by a bridge, and soon afterwards a larger stream called the Ururahi. Since we left Campos, the "Morro da Lagoa de Jesus," a hill resembling the Zobtenberg on a small scale, had served as our landmark; behind which toward evening the Serra do Imbé appeared, enveloped in rain-clouds of a greyish colour. The Urubús and large aquatic birds, white and brown, soaring over our heads, showed that we were in the vicinity of the Lagoa. In the meadows it was very amusing to watch the black Anús, (*Crotophaga major*) continually alighting on the ground before the cattle, horses and pigs, as they grazed, or running before them, as if to direct them to the best spots of grass. We likewise saw this afternoon by the wayside the first nests of the Termites, about two to two and a half feet high, formed of black mould,—truly gigantic works for these tiny architects. The clay soil, passing gradually into a black garden mould, was now succeeded by sand, and large morass on our left seemed to me the skirts of the Lagoa de Jesus. At four o'clock we

reached the Fazenda da Lagoa de Jesus, and halted for a few minutes.

In little more than an hour we approached the Fazenda Palmitar, about a league distant from the Lagoa Feia. Here we had a disagreement with Antonio, who suddenly declared that he could not take us to Rio within the stipulated time; for one of our beasts—that which Mr. Theremin had been riding—was already worn out. There was however another reason in the background: when our Arrieiro made the contract with us, he probably imagined that we should be knocked up before reaching our journey's end, and should ask him to allow us a day or two more on the road. In this he was deceived, for he now saw plainly that our party were all fresh and hearty, and found himself out in his reckoning. For some hours past he had appeared to sit restless and uneasy on his horse; the fact was he suffered from weakness in his chest, which seemed to unfit him for such a long ride, although he must have been in the constant habit of undertaking forced journeys. Antonio was a Portuguese by birth, and had made his escape to the Azores during the government of Dom Miguel, from whence he sailed in an American whaler to Brazil. Since he came to this country, his occupation had been to watch for the arrival of slave-ships at S. João da Barra, and then immediately to ride over to Rio and inform the proprietors. No person therefore knew the road better than Antonio, and he asserted that he had made the journey more than once in three days.

We stopped at Palmitar, where the Arrieiro wanted

to purchase a fresh horse; he could not however come to terms with the people. Here we rested until nine o'clock; meanwhile straw mats were procured and placed under the saddles, which had chafed some of the poor beasts cruelly. In order to lighten the burden of the jaded pack-horse, each one of the party now took his baggage upon his own beast, and at length, these matters being arranged, we started again on our journey, enjoying the refreshing coolness of the night air. We soon reached the small river Macabú, not quite a league distant from Palmitar, and were quickly ferried across: then, passing through a coppice, we came to a smooth plain. On our left the Lagoa Feia extended before us like the expanse of ocean, with foaming breakers; some single, magnificent palm-trees stood close to its margin, and the brilliant moon was mirrored in its surface. Truly it was like a scene in fairyland!

The Serra was still visible on our right, when, after a day's journey of twenty leagues, we stopped at midnight at a venda in Quixamá (Guizaman), only a short distance from Lagoa Feia. Antonio knocked at the door, which was opened after some delay, and we were told that here we were to rest for the night.

October 13*th*.—Quixamá even boasts a church: in the background rises the Serra which we saw yesterday, at its foot stretches a wide plain. We purchased here a one-eyed grey horse, and the bargaining detained us at the venda until near eight o'clock. The horses sunk at every step in the sandy soil, which was only here and there covered with dwarf-palms. As the soil improved,

the bushes grew larger, and the primeval forest gradually succeeded. Antonio had turned off a little emaciated horse by the wayside, recommending him to the care of a man who chanced to be passing. Soon afterwards we made a short halt at a "roça" in the forest, near a "sitio," distant four leagues from Quixama, and about half-way to Macahé. The road was broad, the trees of fine growth, and the Sapucajas in flower grew on all sides. Then followed capuëira, fazendas, and coffee-plantations; but there was scarcely any trace of sugar cultivation in this district. In the vicinity of the Engenho Curibatiba, which is said to have been formerly a penal settlement, and consists at present merely of a few houses, the level plain was broken by undulating ground, covered with small, pointed "mamelons," or little hillocks, five or six feet high; these mounds are said to be formed by ants, but we were not able to discover any trace of the insect itself.

The sandy soil in the capueira and the oppressive heat fatigued my servant's horse so much that he was obliged to dismount and drive his charger before him, ejaculating to himself, "Il y a de quoi maudire le Brézil à perpétuité!" The animals were at length completely worn out, and our guide was compelled to halt before reaching Macahé, at the Venda do Barreto. Here we dined,—it was my mother's birthday, and we drank to her health.

At five o'clock we continued our journey, along a broad road through the capueira, in which we again observed the tall cactuses. The sound of the waves was

audible through the thicket, and presently we caught a glimpse of the ocean and some islands; the view however was soon lost again behind the capueira, which now surrounded us till we reached the ferry of Macahé. A flat sandy coast here stretched out before us, interrupted by the mouth of the Rio Macahé, on the opposite bank of which lay the little town of the same name, extending along the foot of a chain of hills which encompasses a large bay. Antonio left behind another horse at Macahé, and, refreshed by some cooling beverage, we trotted briskly along the sandy road lined with shrubs, listening to the noise of the waves on our left. The moon shone brightly, and in a short time we saw her beams reflected in the Lagoa de Boacica, around which our road lay. On the land side this lake is skirted by wooded hills, but toward the sea its shores are barren, aloes and cactuses alone raising their tall heads in the bright moonlight. The waters of the Lagoa washed over the slippery ground which we traversed, and our horses had no sure footing. After riding through a narrow arm of the lake, we reached the Mato de Boacica (Boassica), a magnificent tract of forest, through which our road led us to Frexeiras, a lonely house situated between the lake and the small Rio das Ostras. We arrived quite tired out, after a ride of eleven leagues, and took up our quarters for the night.

October 14*th*.—We were again in motion early this morning, and presently fell into our old jog-trot, crossing a wide sandy plain, sparely overgrown with shrubs and dwarf or field palms. On our right was again seen

a blue mountain-chain, and before us rose an isolated hill of peculiar appearance, the Morro de S. João. Although Barra do Rio de S. João was only three leagues and a half distant, the road seemed long and tedious, exposed as we were to a burning sun; I perhaps felt the heat more than the rest, being obliged to throw my heavy pea-jacket over my shoulders, to relieve the poor horse, which was beginning to be severely galled.

This place is situated on the left bank of a small stream of the same name, which at its mouth has all the appearance of a lake, separated from the sea by a low, flat sand-bank. From the midst of this strip of sand a black rock seems to rise perpendicularly, with a house on its top; while to the left on a sand-hill stands a small church, up to which the little town extends, encompassing the northern side of the bay. Across the bank of sand a chain of mountains rose on the horizon, beyond the sea, at a great distance; and comparatively in the foreground some brigs and a schooner were sailing before the wind, just in the direction of this low sandy tract of ground, as if purposely to run upon it. All at once the schooner hauled her wind, and, marvellous to behold! sailed to all appearance straight through the sand, close to the foot of the rock; she then swung round, and let drop her anchor near a sumaca, which was lying in what appeared to be the lake. The two brigs followed close in the schooner's wake, and we now perceived that they were entering the mouth of the Rio de S. João, which explained the riddle.

We crossed the river in boats, the horses swimming

over, and a ride of a few hours through deep sand and a tract of low forest or capueira, with fine *Orchidaceæ* in flower, brought us to Campos Novos or the Fazenda del Rey, distant three leagues and a half. The large fazenda stands in a tract of meadow, crowning the summit of a gently sloping hill, and rendered conspicuous by a tall pointed church-steeple: a number of cottages, attached to the fazenda, are scattered on the meadow around. We dined in one of these, and at five o'clock rode on to a house about a league distant: it was built with clay walls, in the style peculiar to the province of Rio de Janeiro, and agreeably situated among orange-trees. Antonio here made an exchange of horses,—all the more necessary, as the only remaining bay, to which we had given the name of "the Deer," could scarcely set one foot before another. After the bargain was struck, we continued our ride through the sandy soil and capueira, and just as it began to grow dark reached a venda not far from Aldea de S. Pedro near the shore of the great Lagoa d'Araruáma.

Refreshed by a little *poncho*, made with water, caxaça, sugar and lemon-juice, we now took a sudden turn to the west, having since we left Campos proceeded nearly due south. We continued in this direction for several hours, in a beautiful moonlight night, on a hard sandy road along the shore of the Lagoa. The banks are flat and clear of wood, and on the side of the sea the lake is skirted by a line of downs apparently opening toward the ocean. Such an opening does indeed exist—not on the southern side which lay opposite to us, but on the eastern side,

near the Villa do Cabo Frio (Assumpção), for the Lagoa d'Araruáma is the inlet or bay which converts Cabo Frio into a peninsula. The "Deer" headed our column, stumbling along as well as he could, and kept on his legs by the blows with which one of the attendants incessantly belaboured him,—an operation that seemed to exhaust the man's little remaining strength and his last spark of interest in the journey. After this active-fisted "squire" followed Antonio, down in the dumps at the thought of being unable to fulfil the promise he had made: then came our merry party of horsemen in file, laughing and singing as usual; whilst another servant, with a long melancholy face, brought up the rear.

Occasionally our road diverged from the shore of the Lagoa, and traversed for several leagues an open plain, barren of shrubs; it afterwards again approached the bay. On a sudden, about midnight, we saw before us a streak of mist, from which rose the spire of a church. We passed to the right of this, and halted near a pond, where Antonio requested us to water our horses. From this I inferred that we had still a long journey before us, and was agreeably surprised when, a few minutes after, we stopped at a short distance from the shore of the Lagoa, at the "Fazenda de Paraty." Antonio procured us a lodging in the neighbourhood at a small venda—a kind of shed, where we stretched ourselves for the night on a heap of Indian corn. According to Antonio's reckoning we had travelled fifteen leagues this day.

October 15th.—We quitted the Fazenda de Paraty at five o'clock this morning, but alas without "the Deer!"

which we were obliged to leave behind. At first our route followed the shore of the Lagoa d'Araruáma, whence we had a clear view of the rounded summit of Cabo Frio, and the small conical hill which rises near its foot. We now bade adieu to the Lagoa, margined only by aloes and cactuses, and entered the capueira. As the soil improved, the primeval forest succeeded, in which magnificent Tillandsias attracted our notice, of a size and beauty that I had nowhere seen except on our ride along the coast of the province of Rio de Janeiro. This wooded plain gradually changed to a hilly country, cultivated with coffee. We halted for a minute near the Venda Aternado, in view of the low, wooded Serra de Bacaxa, and soon after again at another inn, where Antonio unexpectedly met a Fazendeiro, in whose service he had formerly been, and who observing the wretched plight of our beasts very kindly lent Antonio his plump, grey horse. The forenoon seemed interminable, and time crept slowly on, as we pursued our way in an oppressive heat around nearly the whole circuit of the Lagoa de Saquaréma. The church of the Freguezia, of the same name, situated on the sandy downs in the direction of the sea, remained in view for several hours, forming as it were the central point in the semicircle which we made round the bay. Our horses could hardly get along, and we were too tired to apply the spur. At last we came to a ferry, near a narrow part of the lake, and were soon landed on the opposite shore; then turning our back on Saquaréma, and keeping the Serra do Mato Grosso in view, we followed the course of

a picturesque chain of mountains, which stretched along the fine expanse of water. In about an hour we reached the Fazenda Mandetiba, or Manietiba, where we dined, and gave the poor jaded animals a few hours' rest. Our first toast today—dear to us all, but peculiarly so to me—was the health of our beloved King; we drank it with grateful remembrance, and the more so as we owed the pleasure of this journey to his gracious favour. The health of my sister Marie followed, and several others.

After Antonio had changed all the saddles, and assigned a new rider to each horse, we left Mandetiba, and continued our journey through the most beautiful scenery we had beheld since leaving Campos, approaching the Serra do Mato Grosso through an extensive and lovely valley. On the sides of the mountains rose the lofty trees of the virgin forest, which was continued in the valley only in narrow strips, distinguished by the large red flowers of the Heliconias, growing in groups. We crossed the Serra on foot, and upon arriving at the highest point of the pass, the view extended over another valley, of about the same width as the one we had left; at a great distance we descried indistinctly the Lagoa de Maricá, and beyond it the ocean. At the foot of the Serra we mounted our horses again. The sun was just setting, and as his last rays shone on us, we no longer formed an orderly little troop, but an irregular body of horsemen dispersed over the valley. The irksome jog-trot, which had teased us so long, was now succeeded by an intolerable shuffling pace; in addition to which several of the horses were quite lame,—a misery we had hitherto

fortunately escaped, during our journey of three weeks from Rio. In a word, it seemed to be high time for us to reach Maricá. Our Arrieiro was of the same opinion: we had left it entirely to his decision, whether to pursue our journey tonight as far as Praya Grande,—which we must do, if he fulfilled his engagement punctually,—or whether we should rest here for the night. He determined on the latter course, and this turned out the most pleasant to ourselves: after a journey of twelve leagues, we were glad to find in Maricá excellent quarters, a good supper, and the first regular beds we had met with since leaving the fazenda of M. de Luze. We had been in the meanwhile accustomed to sleep upon mats, laid either on a bedstead or the floor; and our usual meals had consisted of "gallinha com arroz" (fowls with rice), "feijões" (black beans), and "rosca," a kind of hard bread, with Hamburg beer for our drink. The horses had been fed only on milho and capim or Angola-grass.

October 16*th*.—A light mist hung over the valley of Maricá, the meadows of which now lay before us in all their beauty, tinged by the early rays of the sun, as we started on our last day's journey to Rio, distant only seven or eight leagues. The range of disconnected, conical, and strangely formed hills, seen on the north-east in approaching Rio from the sea, and the last of which forms "the Giant," extends eastward as far as these meadows. We diverged inland, and passing between them entered a shady forest; a rivulet flowed by our roadside, picturesquely margined by a thick group of magnificent Daturas (*Datura arborescens*—

cultivated by us in pots), with snow-white bell-shaped blossoms, and numerous other beautiful flowers. Coffee-plantations succeeded the primeval forest, and afterwards meadows, with fazendas. Our narrow path now changed to a carriage-road. We travelled on for another hour, when on turning a corner in the road, before us rose the conical hill situated to the north of Praya Grande, called Morro da Armacão. It was noon when we entered the small town, once more enraptured by the glorious prospect over the Bay of Rio de Janeiro, the splendid panorama of the city, and the beautiful mountain-chains of the Corcovado and Tijuca in the background. At Nitherohy we met M. Boulanger, our friendly host from Santa Anna, who was just returning home with a horse which he had purchased here.

Thus had we successfully accomplished the journey of five-and-forty German miles in four days and a half; but of the nine horses with which we started from S. João do Parahyba, only four reached Praya Grande; the others we had been obliged to leave behind at different stages on our route*. As the small steamer transported us rapidly to the metropolis, we missed the 'Malabar,' which had left the roadstead and sailed to Monte Video: in vain also we looked for the 'Growler,'—she had not yet returned from her cruize in pursuit of slavers. We had a merry dinner-party at the Hotel Pharoux, and our

* The reader who desires detailed information relative to the coast-region between Rio de Janeiro and Campos, the banks of the Parahyba and the savage tribes who inhabit that country, will find it amply given in the interesting Travels of the Prince of Wied, vol. i. pp. 41-156.

good humour was not a little heightened by the receipt of letters from Europe. After dinner we drove to the charming Mangueira.

October 17-30*th*.—Although the 'Growler' arrived in the roadstead of Rio within two days after our return, ten days elapsed ere she was again ready to sail. I shall merely give a brief outline of such occurrences during the few days previous to our departure, on the thirtieth of October, as may be of some interest to the reader. The nineteenth was the Emperor's anniversary. Before ten o'clock in the morning I drove to S. Christovão, to offer my congratulations to his Majesty. The Emperor was still suffering from indisposition, yet he received me very graciously, and in the kindest and most affectionate manner presented to me an excellent portrait of Frederick the Second, painted in oil by the Emperor himself. This souvenir, which I prize most highly, now ornaments my drawing-room at Monbijou, and I never look at it without calling to mind the kind reception I met with from its gracious donor, which so greatly enhanced the pleasure of my residence in the beautiful land of Brazil.

Early the next morning I rode toward the city, but without any definite purpose: following the road under the aqueduct, I took the direction of S. Christovão, but soon turned to the left, and ascended the isolated rock of Engenho Velho, which I have before mentioned. The view from its summit is justly celebrated, and is one of the finest around Rio. One half of this magnificent panorama embraces the lofty mountain-chains of

the Corcovado and Tijuca, while on the other side extend far away the smiling plains that surround the isolated rock, like a garden of paradise, skirted on the north and east by the gulf of Nitherohy, which from this spot appears like a beautiful inland lake. The splendid metropolis together with the surrounding mountains advance into the bay, and apparently divide it into two arms of unequal width. Beyond the smaller of these are seen the mountains near Praya Grande, and still further in the background the hills in the direction of Maricá and Macacú, which I hailed as old acquaintances. The smooth surface of the bay widens as it extends to the north. On the opposite shore rise the Orgãos mountains, resembling the pipes of an organ, and stretching into a long blue ridge; while on this side of the bay, the large building of the Hospital of St. Lazarus stands prominently forward upon elevated ground, and S. Christovão is seen on the skirts of the wide plain near the extremity of the Bay.

Leaving Engenho Velho I followed the road toward the Tijuca Falls, which runs at first through the valley lying between the Corcovado and the Tijuca: but hardly had I proceeded for ten minutes, when the oppressive heat obliged me to halt at one of the numerous ventas on the road, the owner of which at once made himself known as a Spaniard. While my horse was baited, I refreshed myself with oranges, bread, and bananas,—amusing my host with accounts of Granada, Cadiz, and Seville, which seemed to awaken many pleasant recollections in his mind. I showed him the cane I had brought

from Seville: he took it in his hand, and with visible emotion carried it into the next room to show to his wife.

I now proceeded up the valley, and, shortly before reaching the saddle which connects the Tijuca with the spurs of the Corcovado range, I passed for about a hundred paces through a portion of the primeval forest, rich in vegetation, which, as I looked back, formed a magnificent frame to the small but charming picture of Rio de Janeiro that was now disclosed to view. On the summit of the pass I came to some more houses. Here is the division of the fluvial system between the Rio Maracaná and another stream; the first of these rivers forms, on the right hand of the road toward the Tijuca, the so-called Little Fall; it is the same stream along which the road leads up from Engenho Velho. The other river flows in an opposite direction, toward an expanse of water, the Lagoa da Tijuca (Lagoa de Comorim), connected with the sea: this stream, falling over large masses of rock, at about half way, forms the cataract known as the Great Tijuca Fall. I followed the latter stream in the direction of the valley, which descends between the rocky Gavia and the south-eastern declivity of the Tijuca. Before us lay the Lagoa, and beyond this was seen the ocean: but although the valley was very romantic, the waterfall disappointed me. It was dark ere I again reached the Mangueira.

The next day I repeated my excursion to the Tijuca, accompanied by my fellow-travellers, to whom this part of the country was new. I also visited today the Little

Fall, situated higher up the mountains, which want of time had prevented my reaching yesterday. We this time rode along the seacoast, round the Gavia, and after passing Botafogo came to the Jardim Botanico. An avenue of Casuarinas, from New Holland, leads to the garden, which is laid out with great taste, and occupies a truly charming site, under the perpendicular walls of the Corcovado. Bread-fruit trees, and the trees that produce cloves, nutmegs, cinnamon, camphor and cocoa, were pointed out to us; also an extensive plantation of the tea-plant, cultivated here by Chinese, who have been brought over on purpose. I noticed likewise several species of palms quite new to me.

On leaving the Botanic Garden we took the road to Luiz Francez, which I had travelled on my excursion of the tenth of September; the country however appeared in quite another light today, for on my first visit the heavy rain-clouds had prevented my seeing the colossal walls of the Gavia, which renders this charming portion of the environs one of the most picturesque near Rio. We rode round the Gavia, and then diverging from the seashore, descended to the Lagoa da Tijuca, where we embarked in canoes,—the horses swimming alongside —and crossed over to the entrance of the valley in which is the Great Tijuca Fall. After dining at a venta close by, we rode on and soon gained the summit of the pass, when, turning to the left, we proceeded to the Little Fall, which is in truth higher and more picturesque than the Great Fall: it is situated romantically in a narrow glen, surrounded with forest. Night had set

in when we entered the avenue of mangoes belonging to our pleasant *chacara*.

Not having the time unfortunately to make an excursion into the Orgãos, I determined to see that remarkable mountain-chain somewhat nearer, and with this view started on the twenty-fourth of October, accompanied by Mr. Theremin, in the little steamer to Piedade, situated at the extreme point of the Bay. To my great regret, the Orgãos were again concealed from view by heavy rain-clouds. Shut out from this picturesque background, the numerous isles in this part of the bay lose much of their interest: even Paquetá, a favourite place of resort to the inhabitants of Rio, at which we touched, wore a gloomy aspect. At Piedade however we enjoyed a pleasing view over the Bay, the mountains at its entrance, and the hills on the eastern shore: here I met with a kind and cordial reception from Mr. Moritzson, from Dantzic, although he did not at first know me: he had just lost his wife, who had left behind her two handsome lads. The weather was very rainy as we returned.

I took leave of the charming Botafogo on the evening of the twenty-eighth,—twenty-four hours later I was riding in the royal state-coach to a ball at S. Christovão, which his Imperial Majesty had graciously commanded on my birthday,—a parting proof of his kindness. After the ball I took leave of the Emperor, and drove to the city for the last time. It was long past midnight when I stepped on board the 'Growler.'

We were up and stirring early on the morning of the thirtieth of October. At ten minutes before six A.M.

the anchor was weighed, to the sound of a lively Scotch reel played by the piper. It was a beautiful Sunday morning, and once more I saw the Bay stretched out in all its magnificence. As the steamer stood out to sea, at six o'clock, all the batteries and men-of-war hoisted their flags, and saluted the Prussian ensign which waved from the main of the 'Growler.' By a strange coincidence the first ship we fell in with under sail, beyond the offing, was a Prussian bark, which had left Rio shortly before us. Santa Cruz and the Sugarloaf were soon passed, and we steamed through the passage between the charming isles of palms do Pay and do May (Father and Mother isles), and steered eastward along the coast, in spite of the contrary winds. At half-past ten A.M. the "mustering by divisions" took place: then followed divine service, and, in the absence of a clergyman, Captain Buckle read a sermon. During this time I observed that the "look-out men" seemed restless, repeatedly seizing the telescope and directing it toward a certain point on the horizon. The service was scarcely concluded, when the joyful information passed from one to another that the English packet, which we had been expecting for some days, was in sight. A signal was run up to the mast-head,—the distant vessel answered it, and all doubt was removed, when she signalled her number in the Navy List, and reported herself as her Britannic Majesty's brig the 'Express.' Anticipating our passing this vessel at sea, Mr. Hamilton, the British ambassador, had most obligingly authorized me to apply for my letters and those belonging to the 'Growler'; enjoining only that my seal should be put upon the

mail-bags of the Packet after our letters were taken out. We steered directly for the brig, which, favoured by the trade-wind, seemed to sweep along upon its wing: we made her a signal to come to, which she immediately obeyed. The Growler's engines were stopped, and Captain Buckle, my companions and myself jumped into the boat, which danced on the waves under the heavy, rolling hull of the steamer, that seemed every moment ready to engulph us. We pushed off, and soon reached the brig, behind which, in the distance, the little church of Saquaréma was visible on the sandy beach. The commander of the brig, a true specimen of a British naval lieutenant of the old school, received us with great politeness, though he seemed somewhat surprized at the unexpected signal from the 'Growler': his features were animated with pleasure when he recognized in Captain Buckle an old friend and messmate. The midshipmen crowded round the gangway, full of curiosity; the mate looked conscious of his dignity as second in command; the boatswain was all attention, with his whistle, to obey any order; and the fine, manly crew stood ready at the braces. The passengers, ladies and gentlemen, alone appeared chagrined at our visit, and stood like victims, with down-cast looks and long faces; in vain had they been indulging the hope of reaching the longed-for end of their voyage before night,—we had come to stay the progress of the weary pilgrims from the Old World,—nay, even within sight of the haven of their hopes! Touched by this truly heart-rending sight, I begged the Lieutenant in

command to continue his course. In an instant, as if by magic, all was life and movement on board the 'Express'; the pipe sounded, and a hearty pull brought the sails to the wind,—a sight which at once restored the spirits of the passengers, who now became as loquacious as they had before been taciturn. We anxiously hastened below to search the letter-bags, which were soon brought out from every hole and corner and piled upon the table of the cabin: amidst joking and laughter we then set to work. All the officers of the brig were present, and the "cabinet noir" was thus constituted in due form. The Growler's letter-bag was first secured; but our despatches were not so readily found, as always happens when one wants most to find anything; we searched to the bottom of the very last bag before they came to light. It was altogether a most amusing scene, and one might almost have fancied us a party of pirates ransacking a ship. When all the letter-bags had been sealed again, in the most careful and conscientious manner, we took leave of the officers and crew of the Packet, and rowed off to the 'Growler,' which had meanwhile accompanied the brig, and thus retrograded some miles in her course. Our return on board the steamer, laden with a rich freight of letters and newspapers, spread general joy and animation. After dinner we observed Cabo Frio—lamentably noted in the annals of the British fleet by the wreck of the frigate Thetis, on December 5th, 1830: the Cape was only dimly visible, though the view of the coast had been perfectly clear the whole day.

THE RIVERS

AMAZON AND XINGU.

THE first glance at a map of America shows us two large continents, united by a narrow isthmus. Abounding in grand volcanoes and snow-clad giant mountains, one while stretching in a single chain, at another in several ranges connected by mighty knots, the rocky wall of the Andes extends over a space of 2100 German miles,* from Cape Horn at Tierra del Fuego to where the Mackenzie river empties into the northern Arctic Ocean,—an extent which may be compared to the distance between Cape Finisterre in Galicia and the East Cape of Asia. The chain of the Andes runs parallel to the Pacific,—at first nearer, but afterwards, under the name of the Oregon or Rocky Mountains, at a greater distance from the ocean, and may be said to form the great backbone which gives support to the New World, and is at the

[* Or 8400 English geographical miles. The miles, where not otherwise designated, are German miles, fifteen of which make a degree. The foot is uniformly the Parisian one, which is one-fifteenth more than the English foot.]

same time a bridge connecting its two halves. Although the highest summits of this great mountain-chain—the longest in the world—reach an elevation of 20,000 feet in the republic of Ecuador, of 22,000 in Chili, and of even 24,000 in Bolivia, it is continued, after a short interruption, in a low, disconnected range of granitic hills, not quite 500 feet in height, across the Isthmus of Panama, bidding defiance in its lowest part to the combined waters of the Atlantic in the Gulf-stream, which for thousands of years have vainly attempted to force a passage through this barrier at its weakest point, where it is only six and a quarter (twenty-six Engl.) miles in width. But the Cordilleras stand immoveable. Not in vain therefore, it seems, did this mountain-wall break through the crust of the earth, to an extent of from 55° south latitude to 68° north, thus comprising more than a third of the circumference of the globe; for up to this very day these mountains serve their great purpose, of being as it were a support or backbone to one whole quarter of the globe. The small barrier which separates the two oceans does in fact appear in some places almost broken through, and it is not improbable that human skill may succeed in forming a canal through the Isthmus of Panama, which in this age of the employment of steam-power may prove of the greatest importance to navigation and commerce, and may possibly even become a source of contention among civilized nations: nevertheless so small a breach through the chain of the Andes could never have any undermining effect upon that mighty ocean barrier.

If we look more closely at the outline of the continent of South America, it appears—apart from the isthmus which unites it with North America—like a Trinacria on a grand scale; for, with the exception of some inconsiderable indentations, it nearly forms a right-angled triangle, of which Cabo de S. Roque, Cape Forward, and Punta de Gallinas are the extreme points. We find the right angle near the first of these promontories, where the eastern coast advances in the form of a wedge into the oceanic currents, which in an uninterrupted line wash the continent; and its convex configuration corresponds so closely to the indentation in the opposite coast of Africa, that it seems as if the two continents must originally have formed one.

The west coast, stretching from south to north, is the hypothenuse of this right-angled triangle, lying at the foot of the Andes, and forming a seam about 1000 (4000 Engl.) miles in length, and from 5 to 15 (20 to 60 Engl.) in breadth; although mostly barren, it is irrigated by the cold waters of the Peruvian stream. In Bolivia this flat coast passes on to the desert of Atacama, where rain never falls; and on the north of the Gulf of Choco, on the contrary, it changes to a plain containing gold and platina. To a similar extent as Punta Pariña south of Guayaquil advances into the Pacific, the ocean near Arica encroaches upon the land, forming a considerable indentation; so that Punta de Gallinas and Point Forward in the Straits of Magalhães (the actual southernmost point of the continent) lie nearly in the same meridian. On the other hand, the extreme western and

eastern points of the continent,—namely Punta Pariña and Cabo de S. Roque, the distance between which in a straight line is only about two-thirds of that between the points before mentioned,—are in nearly the same latitude. The two cathcti of the triangle are of unequal length,—the southern one, between Point Forward and Cabo de S. Roque, extending 850 (3400 Engl.) miles, while the northern side is only 600 (2400 Engl.) miles in length. A comparison will show these figures more clearly. The superficies of South America, which comprises, as is well known, about double that of Europe, may be expressed by a triangle, the points of which would touch Cape St. Vincent in Portugal, the North Cape of Europe, and the city of Bombay. In this triangle, the extent of the west coast of South America represents the distance from Cape St. Vincent to Bombay; the northern side, that from Cape St. Vincent to the North Cape; and the southern side, that from the North Cape to Bombay. From about the middle of each cathetus of this triangle, flows one of the two great rivers, through a wide embouchure into the ocean: on the one side the Rio das Amazonas, from the west, after pursuing a course of 770 (3080 Engl.) miles,*—a river twice the length of the Danube,

* According to the fluvial system of the Marañon, as delineated by Professor Berghaus in his Physical Atlas (Section II., No. 8), this river is about 770 (3080 Engl.) miles in length, or fifty (two hundred Engl.) miles longer than the Yang-tse-Kiang, the largest river of the Old World. The Marañon, which does not wind so much in its course, is shorter than the Mississippi, taking the Missouri as the head-stream. Nevertheless the great number of its tributaries, and their depth of water, render the Amazon the first river in the world.

and five times that of the Rhine; while if the Ucayale be taken as its head, its course is 850 (3400 Engl.) miles in length,—equal to the distance in a straight line between Cape St. Vincent and Orenburg on the Ural. The second of these two great rivers is the Rio de la Plata, which flows from north to south 480 (1920 Engl.) miles, taking the Paraná as its source, exceeding in length the Danube and the Niemen together.

Each of these gigantic rivers has its own basin. The Andes extend from the sources of the Rio Magdalena to the mountain knot of Cuzco in the shape of a curve, the chord of which is nearly 300 (1200 Engl.) miles long, and forms the base of the basin of the Rio das Amazonas*, which toward its mouth narrows gradually to a breadth of only about 30 (120 Engl.) miles. In its south-western part this basin is connected by the small strip of the Pampas of Moxos and Chiquitos in eastern Bolivia, running south-east, with the oblong basin of the Rio de la Plata, which commences near the morasses of Xarayes in Upper Paraguay. The eastern limit of this latter basin follows, at a short distance, the left bank of this river; while on the right bank of the Paraguay and the Plata immense prairies covered with innumerable herds of cattle extend to the foot of the Cordilleras. Between the Sierra de Cordova, which has its roots in the Andes, and the mountains of Entre-Rios on the lower Plata, these mighty plains are narrowed for a short distance to a width of only forty-

* The inhabitants of the banks of the Rio das Amazonas generally call it for shortness "O Amazonas."

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five (180 Engl.) miles, but they widen again in the Pampas of Buenos Ayres, and extend in the form of a sharp-pointed triangle along the east coast of Patagonia to the Straits of Magalhães.

Following now the course of the Amazon, we are struck by its remarkable connexion, by means of the Rio Negro and the Cassiquiare, with the third chief river of America, the Orinoco, which is 340 (1360 Engl.) miles in length, and, although not quite so long as the Danube, has a much larger quantity of water than that river. Like the rivers, the plains also on the west and north of this natural system of canals—the Llanos of the Orinoco—are connected with the north-western part of the basin of the Amazon, which they continue up to the north-east in the form of a swan's neck to the delta of the Orinoco. The centre of the whole continent of South America consists therefore of a continuous chain of plains, extending from the mouth of the Orinoco to the Rio de la Plata,—indeed as far as the Straits of Magalhães,—and from the foot of the Cordilleras in Peru to the mouth of the Amazon, forming as it were a single gigantic basin, which stretches out its three mighty arms toward the ocean, while the above-named rivers traverse their entire length like so many huge arteries. But how different in character are these three great basins! The central basin of South America, covered almost in every part, from one end to the other, with gigantic primeval forest, reminds us of the strength and vigour of manhood. Boundless woods, of a grandeur and luxuriance such as are alone found near

the equator, arise here, on the most fertile soil of the globe, and watered by the equatorial rains. An extent of forest covering a surface of 70,000 square miles * (1,120,000 Engl.),—more than six times the size of Germany,—stretches between 2° north and 12° south latitude, a distance of 420 (1680 Engl.) miles from the Cordilleras to the ocean along the banks of the Amazon; and this sea of foliage, out of which rise here and there the light airy crowns of the slender palm-trees, extends like a forest-ocean into the grassy steppes of the Orinoco and the Plata. How striking is the contrast between the verdure of these immense plains, especially those of the Orinoco, and the luxuriant vegetation of the forests! The former present a picture of life, one while in its spring, at another in its autumn,—the verdure with which they are covered during the rainy season reminding us of the first down on the cheeks of youth, and, when the summer drought parches all vegetable life, of the last days of expiring old-age. "The Llanos, or the most northern plains of South America, lie in the torrid zone," says Alexander von Humboldt, "like the desert of Sahara; and yet each season in succession displays them in a new aspect,—one while barren as the Libyan desert, at another a beautiful expanse of verdure like the high Steppes of central Asia." The superficial area of these llanos may be computed at 8800 (140,800 English) square miles,—nearly equal to that of Spain.

* Mr. Mahlmann has had the kindness to compute the above calculation, as well as the table given in page 119, exhibiting a statement of the entire surface of South America.

This celebrated traveller however assigns to the plains of Patagonia and the Plata,—of such amazing extent that "they are bordered on the north by palms, and on their southern limit are almost constantly covered with ice,"—a surface of 76,000 (1,216,000 Engl.) square miles, nearly seven times the entire size of Germany, and covered for more than half this extent with grass. These savannas of the south form an immense flat, impregnated with salt and nitre," and in many places covered with drift-sand or morasses, in which various rivers for want of sufficient fall lose themselves. The traveller finds no vegetation on these immense Pampas but stunted shrubs or groups of saline plants; whilst he is exposed to violent storms, especially the dreaded "Pampeiro" near the mouth of the Plata. Nevertheless these otherwise sterile regions give pasture to innumerable herds of cattle and horses. On the opposite side of the Paraguay the country is covered with thick forests, stretching over the hilly region of the Paraná to the mountains in the province of S. Paulo.

Having thus taken a survey of the principal plains of South America, the entire extent of which amounts to 154,800 square miles (2,476,800 Engl.),—an area almost equal to that of the continent of Europe,—we shall now attempt to present a general view of their configuration. Commencing with the two eastern points of the island of Trinidad, the two parallel chains of the coast-region of Venezuela separate the plains of South America from the Caribbean Sea: the northern one of these chains, a part of which is buried in the ocean, rises

at its highest point, the Silla de Caraccas, to an elevation of 8100 feet. The table-land of Barquisimeto next forms a connecting link in the chain; this, which is of slight elevation at first, ascends up to the glaciers of the eastern Cordillera of New Granada, the most eastern of those three mighty rays which commencing in the Paramo de las Papas—the great buttress of the lofty wall of the Andes—traverse the state of New Granada and are separated by the valleys of the Rio Magdalena and the Cauca. In the same manner as the western of these three chains, which wonderful to say appears to be completely separated from the low ridge of the Isthmus of Panama, so the central Cordillera loses itself in the llanos of the lower Magdalena: from this last chain rises the most northern of the volcanoes of South America, the great Tolima, to a height of 17,200 feet.

From these llanos the gigantic mountain of Santa Marta rises, isolated, like an outpost of the host of lofty snow summits of the South American Cordilleras against the Andes of the north, keeping watch and guard as it were in the darkness of night among the fiery chimneys of the southern and northern halves of the New World, and serving by day as a watch-tower about 18,000 feet in height. From this mountain may be descried, across the blue expanse of ocean and the isthmus, the smoking peaks of the range of Guatimala,—those thirty-eight volcanoes which rise from a transverse cleft in the Andes, and stretch across the isthmus from one ocean to the other.

We now return to the mountain-knot of the Paramo de

las Papas, the source of the tripartition to which we have before alluded; and continuing from hence southward along the range of the Cordilleras, we follow the western limits of the immeasurable plains of South America. The great western curve extends from the Gulf of Guayaquil, north of Point Pariña, to its southern extremity near the deep indentation of Arica; it everywhere presents the peculiar, articulated aspect of this gigantic system of mountains, which extends over a tenth part of South America, and which our illustrious fellow-countryman, Alexander von Humboldt was the first to delineate. Within the compass of this range one great basin or longitudinal valley joins another, encompassed by chains of mountains and closed at their extremities by mighty knots and transverse ranges, following the direction of the longitudinal axis of the mountain-chain. Starting from the two most northern of these basins, which are in parts very elevated, we observe, between the knot of the Paramo de las Papas and that of Porco and Potosi, to the east of the harbour of Arica, six such points of junction, and consequently seven chief links in the chain. Between the mountain-knot of Papas and that of Loxa, to the east of Point Pariña, succeed four smaller basins enclosed by two mountain-ranges, comprising among others the celebrated basin of Quito, nine thousand feet in height, and crossed by the equator. In this region we find—sometimes in the eastern, sometimes in the western chain, or entirely separated from the Cordillera—those seventeen volcanoes of the Quito range, the most northern of the three series which

occur at considerable intervals in the Andes of South America. A distance of five degrees of latitude intervenes between the most southern volcano of Guatimala and the Tolima, which mountain re-commences the volcanic series in the fourth degree of north latitude, and is only surpassed in height by two volcanic peaks in the Quito chain (those of Antisana and Cotopaxi) extending to the second degree of south latitude. But neither of these mountains equals in height Chimborazo, which is not a volcano, and forms the keystone of this lofty range of the Cordilleras, reaching to an elevation of 20,100 feet above the level of the Pacific, and long regarded as the highest mountain in the known world.

Between the neighbouring mountain-knot of Loxa, in 4° south latitude, and the larger one of Huanuco and Pasco,—which contains, in 11° south latitude, the Lake of Lauricocha, the source of the Amazon river,—the Andes are separated, a second and last time, into three chains. Two parallel longitudinal valleys are thus formed, through the western one of which flows the Tunguragua, or Upper Marañon—the Amazon river; while through the eastern valley flows the Huallaga, the first important tributary which the former river receives on its right bank. After changing its course from N.N.W. to N.N.E. the Huallaga crosses the eastern Cordillera and joins the Amazon in the low plain called the Pampas del Sacramento. At about the same height as this break in the eastern Cordillera, the neighbouring central chain forms a bifurcation, and one of the branches turns westward toward the Loxa knot; through this branch the Marañon forces

a passage for itself near Jaën de Bracamoros, after which the range again joins the coast chain. The right branch, turning in a N.N.E. direction, unites with the eastern Cordillera, and approaches the Marañon northeast of Jaën, where, as we shall hereafter see, the northern spurs of this range cause the defile of Pongo de Manseriche,—the last break which this river forms through the mountains. It is worthy of remark, that for a distance of about 100 miles (400 Engl.), namely from Chimborazo to the Nevado de Huaylillas, which rises in the coast chain on the heights of Truxillo, not a single peak reaches the limits of perpetual snow,—about 15,000 feet,—and that this depression of the mountain-masses coincides with an entire absence of volcanic phenomena, although it extends for more than twice the distance to the south.

From the Huanuco and Pasco knot springs again a double chain, which running east of Lima joins the largest of all the mountain-knots of the Andes, namely the table-land of Cuzco, which is nearly three times as large as Switzerland. Receding from west to east toward the interior of the continent, this high-land makes a sharp bend, and we find a corresponding indentation in the coast near Arica. Cuzco, the ancient seat of the empire, is situated near the eastern extremity of this knot, which is connected with the plateau of the Laguna de Titicaca, one of the largest as well as highest basins of the Andes, extending 100 (400 Engl.) miles in length, and 20 (80 Engl.) miles in breadth; the latter forms a table-land, at a height of 12,000 feet above the sea,

as large as the kingdoms of Bavaria and Bohemia taken together. It comprises a lake, with an extent of surface nearly as large as the Grand-duchy of Hesse. Another remarkable circumstance is, that while this lake has an outlet into a much smaller one, the latter has no visible efflux: so that this American Thibet has the appearance of a high table-land, from which the waters have no escape*,—a phenomenon, as Baron Humboldt remarks, similar to the circular basins surrounded by mountains which we observe in the moon.

Here, as is well known, was in ancient times the seat of civilization in South America: the tide of culture seems to have followed the direction of the cooler mountain regions,—a fact which is also attested by the remains of a later date found on the table-land of Quito. Here too, in the eastern chain of the two Cordilleras, which run perfectly parallel and skirt this large salt-water lake, have recently been discovered the loftiest peaks of the New World,—the Nevado de Sorata, 23,690 feet in height, and the Illimani, 22,700 feet†; the first being nearly 3,600 feet higher than Chimborazo, and within 2,650 feet of the Dhawalagiri. Here at last we find,

* The Rio la Paz, or Choqueapo, and the Mapiri, two branches of the Beni, are an exception to the above remark; according to the latest information, they are said to arise in the western declivity of the Sorata, and therefore within the circuit of the table-land, but after a short course they break through the eastern barriers of the plateau.

[† The heights of the Sorata and Illimani given in the text are those stated by Arago upon the authority of Mr. Pentland in the "Annuaire du Bureau des Longitudes pour l'An 1830, p. 231 *seq.*" But in a chart of the "Laguna de Titicaca," by Mr. Pentland, just published by the Admiralty, these heights are stated so considerably lower than they were before given upon the authority of that gentle-

after a break of 220 miles, the second range of volcanic mountains on the southern half of this continent,—the eight volcanoes of Bolivia and Upper Peru, among which is the Gualatieri and the Nevado de Chuquibamba, 20,600 feet above the sea: these two mountains rise in the western Cordillera, and encompass the Gulf of Arica in a wide curve, between 16° and 21° south latitude.

The large Porco and Potosi knot, famed for its gold-mines, closes the chain of the northern half of the South American Andes, and here commences its longer and little-known southern half, where, according to the latest measurements, by Captain Fitzroy, R.N., the giant mountain of Aconcagua rises, eastward of Valparaiso, to a height of 22,000 feet, and forms the third highest peak of the New World. Until within a few years, it was held to be less probable that the crest of this chain reached the limit of perpetual snow, than that in proceeding southward this limit became lower and descended to the ridge of the Cordilleras. Recent discoveries have proved the existence of eleven undoubted volcanoes between the latitude (33° south) of the harbour of Valparaiso, and the island of Chiloë, at a distance of 180 (720 Engl.) miles from the volcanic mountains of Bolivia; whereas, if we were to reckon all the mountains which successive travellers have regarded as volcanic, we might enumerate more than

man, that geographers are naturally anxious to know the reasons which have induced Mr. Pentland to correct his statement so materially. In the above-named chart Mr. Pentland makes the highest peak near Sorata merely 21,286 English feet, and the southern peak of the Illimani 21,149 English feet.—R. H.S.]

double that number in this third range of the South American volcanoes. An equal discrepancy of statements exists with regard to the ramification of the mountain-range that stretches (according to Pöppig in a double, but according to previous accounts only in a single, chain of snow-topped mountains) along the western coast of Chili and Patagonia, and crossing Tierra del Fuego extends to the cliffs of Diego Ramirez. The very name of Tierra del Fuego leads us to expect the existence of volcanic mountains, but this supposition is not yet sufficiently confirmed. Captain P. Parker King, R.N., is the first who has recently and accurately described the situation and height of the "Volcan Nevado," which rises on the south side of the island to an elevation of 6378 feet: this mountain was however known to Sarmiento, one of the first explorers of the Straits of Magalhães, after whom it is frequently called*.

The chain of the Andes thus presents ninety-one elevations whose volcanic character is well ascertained: of this number, forty-four belong to North America and the Isthmus of Panama, ten to the Antilles, and thirty-seven to South America. We observe the chain

* Captain King seems to doubt whether this mountain is volcanic: he says: "The peculiar shape of its summit, as seen from the north, would suggest the probability of its being a volcano, but we never observed any indication of its activity. Its volcanic form is perhaps accidental, for, seen from the westward, its summit no longer resembles a crater. From the geological character of the surrounding rocks its formation would seem to be of slate. It is in a range of mountains rising generally two or three thousand feet above the sea; but at the N.E. end of the range are some at least four thousand feet high. The height of the 'Snowy Volcano,' or as we have

of these volcanoes frequently interrupted by long intervening breaks; nevertheless we can trace a connecting link, formed by the last representative of the giant-race of American Nevados, the mountain of St. Elias, (which, in the latitude of St. Petersburg, rises 16,760 feet above the flakes of ice in the Arctic Ocean,) and by the fiery craters of the icy Alaschka up to the smoking range of the Aleutian isles: these mountains form the bridge by which the volcanic action is carried over from those of Kamschatka and the numerous groups of islands on the western coast of the Pacific to the New World. The volcanoes in this chain which surrounds the Pacific Ocean may be compared to a girdle studded with sparkling precious stones, now set singly now in rows, and terminating with the Sarmiento, against the foot of which the billows of the Antarctic Ocean break, whilst around its summit icy storms from the west almost perpetually rage, whirling the icebergs to and fro in all directions, to the terror of the navigators of these inhospitable seas.

Returning now to the region where the cold waters of the Pacific, in the latitude of Arica (18° 30′ south), have encroached on the coast, and where the rocky walls of the Cordilleras receding eastward form a great inflexion

called it, Mount Sarmiento, was found by trigonometrical measurement to be six thousand eight hundred feet above the level of the sea. It is the highest land that I have seen in Tierra del Fuego; and to us indeed it was an object of considerable interest, because its appearance and disappearance were seldom failing weather-guides." See 'Narrative of the Surveying Voyages of His Majesty's ships Adventure and Beagle, between the years 1826 and 1836 under the command of Captains P. Parker King and Robert Fitzroy, R.N.' London, 1839, vol. 1, p. 27.

with the group of Cuzco and the adjoining plateau of Titicaca, we observe, between this point and the parallel of Valparaiso on the east slope of the Andes, mighty terraces projecting far into the plains, which appear to stand as props to the Andes, their usual breadth of 14 to 16 (56 to 64 Engl.) miles extending in some parts to 75 and even 90 (300 to 360 Engl.) miles. Baron Humboldt describes three of these "props or *contre-forts*," under which name he indicates them very distinctly, as follows: commencing from the north, we have first the contrefort of the Sierra Nevada de Cochabamba, reaching a height of 16,000 feet, and descending to the plains of the Chiquitos; its ridge however does not diverge from the foot, but the back, of the Cordillera, which forms the eastern edge of the basin of Titicaca; secondly, the Sierra de Salta; and lastly, the contrefort of the Sierra de Cordova, which, as we have already observed, advances into the Pampas of Buenos Ayres in the direction of the Paraguay.

Having now described the limits of the immense basins of South America, from the west and north as far as they are bounded by the mountainous belt of the Venezuelan coast and the Andes, which continues almost uninterruptedly from the island of Trinidad to the Straits of Magalhães, we return to the mouth of the Orinoco, at which point we started.

Between the plains of this river and the Amazon, or between 3° and 8° north latitude, and 60° and 67° west longitude, rises the high-land of Guiana, closely encircled on its north-western part by the Orinoco, and separating

the great system of plains in the north-east from the Atlantic. This mountain-system comprises several principal groups, namely the Parime mountains in the west, the Pacaraima chain in the middle, and the Acarai mountains in the east, and covers an extent equal to eighteen times the whole of Switzerland, the highest summit being the Duida*, which according to Baron Humboldt's measurement is 7770 feet in height. The chief groups are divided into eight chains, separated by valleys and savannas; and, like the line of coast between which and the mountains only a small plain intervenes, they follow the general direction of N. 85° W. These mountain-chains are continued by contreforts in the south-east as far as Cabo do Norte, and within fifteen (sixty Engl.) miles of the left bank of the Amazon, where we observe the commencement of this system still further south, and opposite the mouth of the Xingú is the Serra de Almeirim or de Parú.

The mighty central basin of South America is bounded on the south-east by the extensive table-land of Brazil, which rises between the plains of the Amazon and the Plata. From the mouth of the latter river, the plains of Patagonia stretch, unbounded by mountains, toward the South Atlantic Ocean.

The configuration of the high table-land of Brazil resembles an irregular triangle, the obtuse or lower point of which rises near the upper Madeira and the banks of

[* The mountain of Maravaca, situated about thirty-five English miles to the north-west of the Duida, is considerably higher than the latter.—R. H. S.]

the Guaporé, and is merely separated from the Cordilleras of Bolivia by a small strip of the grassy plains of Moxos and Chiquitos. From hence it stretches in an immense expanse toward the ocean, the coast of which from the mouth of the Parahyba do Norte, on the eastern limit of the province of Maranhão, as far as Monte Video, forms its base. The superficial area of this triangle is said to comprise 93,000 (1,488,000 Engl.) square miles, and is nearly as large as European Russia; its mean height above the level of the sea is only from one to two thousand feet.

From the plateau of Brazil rise the higher mountain-ranges, the general direction of which, as well as of their stratification, runs from north to south. At the eastern limit of this high table-land rises at a variable distance from the coast the Serra do Mar, which stretches from the point where the Jacuy flows into the Lagoa dos Patos (29° 30′ south latitude), nearly to the Bahia de Todos os Santos (13° south latitude), and in the opinion of Von Eschwege is even continued by a low ridge as far as Cabo de S. Roque; though the latter, when seen from the sea, has the appearance of a flat country. This mountain-range, in which we must include the whole elevated district of the province of Rio de Janeiro, between the coast and the Parahyba, attains its greatest height — from three to four thousand feet — in the Serra dos Orgãos, with which the reader is already acquainted from our description of the country around the metropolis.

Nearly parallel with this chain on the coast-region,

and distant about forty to fifty German miles from it in its northern part, extends a second range, which traverses the entire length of the province of Minas Geraes from north to south. This is the loftiest chain in Brazil, and comprises the Itambé, 5590 feet high, in the neighbourhood of the famous diamond district of Tejuco, and the Itácolumi, 5400 feet in height, in the region of Villa Rica so rich in gold: in its southern portion it attains an elevation of 7000 feet*. The chain here takes the name of the Serra da Mantiqueira, and stretches in a south-west direction as far as the province of S. Paulo, where it joins the Serra do Mar, or is at least connected with it by an elevated tract of country. The name of Serra da Mantiqueira is by some given to the entire chain, which seems to extend from the province of Minas northward into that of Bahia and Pernambuco, and southward as far as S. Paulo and Rio Grande. Von Eschwege calls this main ridge of the Brazilian mountain-system much more appropriately the Serra do Espinhaço,—literally Backbone ridge.

To the west of the Serra do Espinhaço, and separated from it by the Rio de S. Francisco, numerous other ranges extend from north to south, which partly unite by ramifications running east and west, and partly at such angles that a general connection exists in this chaos of mountain-ranges, and we can distinguish one common ridge between the sixteenth and twenty-first degrees. This ridge, traversing the provinces of

* Compare 'Von Roon, Grundzüge der Erd-, Völker- und Staaten-Kunde:' Part 2. page 143.

Minas, Goyaz, and Mato Grosso from east to west in enormous bends, divides the basins of the two chief fluvial systems; and terminating with the broad, sandy, hilly country of Campos de Parecis, loses itself near the Pampas de Chiquitos, opposite those mighty contreforts of the Andes, the Sierra de Cochabamba. Von Eschwege comprises all these chains under the general name of Serra dos Vertentes, (the mountains which separate the rivers), while each group, as may be supposed, has its own distinctive name. Among the chains stretching from north to south we notice particularly, opposite Mount Itambé, the Serra da Canastra, 4500 feet in height,—the greatest elevation of this mountain-system; next the neighbouring Serra da Marcella, and the Serras de Tabatinga and Ibiapába, which separate the Rio S. Francisco from the Tocantins and the Parahyba; likewise the mountain-ridge known by the high-sounding name of the Cordillera Grande, situated between the two head-rivers of the Tocantins; and between the Paraguay and the Paraná, the Serra de Maracayú, from two to three thousand feet high. Among those chains which run from east to west, we will only mention the Pyreneos and the Serra de Santa Marta.

Thus it will be seen that all the mountains of Brazil are connected, and that this general connexion extends from the Serra do Mar by means of the Serra da Mantiqueira to the Serra do Espinhaço; while the Serra dos Vertentes extends from the latter to the Campos de Parecis, whence this great mountain-range may be traced from between 14° and 20° south latitude across the

Pampas up to the foot of the Andes, forming a line of demarcation between two slightly elevated plains, similar to the scarcely perceptible line of partition which, as Baron Humboldt has shown, intersects in the northern hemisphere the South American continent, between the second and fourth degrees, and is only crossed by the Cassiquiare.

Having thus briefly sketched the general outlines of the plains and basins of this continent, and the mountains and plateaus which bound them, we shall now give a summary of the superficies in round numbers, to render what we have said more intelligible.

PLAINS.

	Sq. Miles.*	Sq. Miles.
Llanos of the Orinoco	8,800	
Plains of the Amazon.....	70,000	
Pampas of Rio de la Plata and Patagonia	76,000	
		154,800
Plains of the Magdalena	6,800	
Coast-region of Guiana	2,100	
Coast-region west of the Andes.....	11,300	20,200
Total		175,000

This extent surpasses, by seven thousand square miles, the whole area of Europe, including its islands.

[* We give this table in its original form. As already mentioned, the miles are German geographical miles, of which there are fifteen to a degree; hence, one German geographical mile is equal to four English geographical miles, and the above numerical base must be multiplied by the square number to convert them into English square miles.—R. H. S.]

MOUNTAINOUS REGIONS.

	Sq. Miles,	Sq. Miles.
Cordilleras de los Andes	33,000	
Chain of the Venezuela coast	1,100	
Sierra Nevada de Santa Marta	100	
High table-land of Guiana	15,000	
High table-land of Brazil	93,000	
Total		142,200

Hence the comparative proportions of the continent of South America consist of five-ninths of plains, and four-ninths of mountainous land. It would exceed our limits to enumerate here the thousands of rivers, large and small, which have their sources in the high table-land of Brazil; we shall mention only the three head-branches of the Plata,—the Paraguay, the Paraná, and the Uruguay; and among the rivers of the coast-region, the Parahyba do Sul*, the Rio Doce, the Rio Grande de Belmonte, the great Rio de S. Francisco, 350 (1400 English) miles long, the Parahyba do Norte, and the Meary. To the east of the Madeira rise likewise in the mountains of Brazil all the southern tributaries of the Amazon,—the Tapajós, the Xingú, the Uanapú, and the Tocantins. Most of these rivers form numerous rapids and cataracts before they enter the immense basin of the king of rivers. The Amazon however, as already observed, has its origin in the Andes. Its head-rivers —the upper Marañon, the Huallaga, the Ucayale, and

* This river is about 120 miles (480 Engl.) in length.

perhaps the Madeira in a wide sense—present a grand fluvial system, the sources of which extend from the Sierra Nevada de Cochabamba, to the mountain-knot of Pasco, its general direction being from south to north; while the main stream, which rises from the confluence of all these rivers, makes a great bend and flows toward the ocean from west to east.

From this system of rivers geographers have selected the most western branch—the Tunguaragua—flowing from the mountain-lake of Lauricocha, twenty-five German miles north-east of Lima, as the source of the Amazon, and given it the name of Marañon, by which the Spaniards designate the main stream. The reader will likewise recollect that the upper Marañon flows through the western of the two longitudinal valleys which run parallel between the mountain-knots of Pasco and Loxa, for a distance of ninety (360 Engl.) miles in a north-north-western direction, as far as the town of Jaën de Bracamoros: here, after having made its way through the western branch of the central Cordillera, it takes a north-eastern direction and becomes navigable, though at first only for small vessels drawing five or six feet of water. After pursuing a further course of sixty (240 Engl.) miles, including its windings, it turns due east, near the confluence of the S. Jago, forcing a passage through high rocks in the Pongo de Manseriché, formed by ramifications of the north-east branch of the central Cordillera. The rapid stream carries a vessel in less than an hour through this strait, about a mile and half (six English miles) in length:

its bed, which higher up is 360 paces* in width, and from twelve to twenty fathoms deep, is here narrowed to sixty paces. The stream issues from the strait just above the small town of Borja, in 4° 28′ south latitude, and 76° 27′ west longitude, at a height of 1164 feet above the sea. This is at the same time the point where the Marañon, on entering the plains, leaves the Andes altogether, flowing on in an even course, without either falls or rapids, but forming numerous larger or smaller islands. At the Pongo commences the main direction of the Amazon, from west to east, which it pursues for 420 (1680 Engl.) miles in a straight line to the Atlantic, flowing into the ocean between 48° and 50° west longitude.

We have already seen that the Huallaga, the first important tributary, flows into the Amazon soon after it has forced its way through the eastern Cordillera: the breadth of this river near its mouth is 2500 paces. A little further below, the great Ucayale joins the main stream, a river which in its lower course is from 1250 to 3750 paces wide, and is eighty (320 Engl.) miles longer than the Marañon. It rises in the mountains of Cuzco, and flows for a considerable distance along the eastern slopes of the Andes, bending afterwards, though only for a short distance, sharply to the north-north-east. It ultimately falls into the Amazon, after pursuing a course of 320 (1280 Engl.) miles,—equal in length to that of the Vistula, Oder, and Weser together. The junction takes

* A *pace* is equal to two feet and two-fifths.

place nearly opposite the small town of Nauta, and a little above S. Juan d'Omaguas, where the Amazon is half as wide again as the Ucayale, or 1875 paces. The average width of the Marañon, from the confluence of the Huallaga to this spot, is from 625 to 1875 paces, and at one point as much as a mile and half, or six English miles. Lieutenant Lister Maw found its depth to be from eight to twelve fathoms, and near the confluence of the Ucayale more than thirty-five fathoms.

After the Ucayale follows the Napo flowing from the north, which we should have passed unnoticed like other insignificant streams from the left, but for its historical interest. The Javary, which next joins the Amazon from the south, though an unimportant river deserves mention as forming the limits between Brazil and the republics of Ecuador and North Peru. Opposite its mouth rises on a hill the small frontier town of S. Francisco Xavier de Tabatinga, in 4° 33′ south latitude, and 70° 10′ longitude west of Greenwich. When Von Spix visited this place it was defended by a weak, wooden fortification, mounted with a few sixty-pounders.

From the Brazilian boundary, where the Amazon is 630 feet above the level of the sea, to the confluence of the Rio Negro, the Marañon bears the name of Rio dos Solimões. At the mouth of the Javary commences the great northern curve, which characterizes the middle course of the Amazon, nearly within two degrees of the equator at Fonteboa, and terminating near the junction of the Coary in 4° 9′ south latitude and 63° 3′ west longitude, after being joined on the left bank by the Içá or Eça (the Putu-

mayo of the Spaniards), which is still unexplored, and the many-branched Yupurá, which at times inundates the left bank of the main stream for an extent of eighty (320 Engl.) miles. Von Martius explored this latter stream, in the course of his remarkable travels, two hundred and eighty years after another German, Philip von Hutten, had roamed thus far in quest of treasure. From the right bank flows the Jutay, Jurua, and near Ega (Teffe) the dark-brown Teffe,—all considerable streams, bringing their tribute to the king of rivers: their banks however are almost wholly unknown to us. Below the junction of the Coary, M. de la Condamine estimated the width of the Solimões at more than a French league; and Von Martius reckons the width of the Purús, the next considerable tributary on the right hand, at 1250 paces, observing that it would take two months to reach even its cataracts. After the confluence of the colourless waters of this river, follows on the opposite bank the smooth, dark-brown or nearly black waters of the mighty Rio Negro. This is the most important of all the rivers that flow from the north, and its course is 360 (1440 Engl.) miles long, nearly equal to that of the Danube. Its sources do not lie in the Cordillera, like those of the Napo, the Içа and the others flowing from the north, but in the Sierra Tunuhy, an insulated group of low elevation in the llanos. Like the former its direction is south-east, or rather east-south-east, and in its course through the plains it not only receives accessions of water from lakes fifty to sixty feet in depth, but also by means of the remarkable natural system of canals a portion of

the waters of the Orinoco, and falls ultimately into the main stream near the Fortaleza da Barra do Rio Negro, in 3° south latitude. Its width here amounts, even where the river is the narrowest, to 3600 paces, with a depth of from eighteen to nineteen fathoms. The width of the Solimões varies frequently between the Brazilian frontier and this point, but it may be stated generally at a quarter of a mile (one English mile) to a mile and an eighth (four and a half English miles), whilst the average depth below Omaguas seems to vary from fourteen to sixteen fathoms.

From the point where the Rio Negro joins the Amazon —which has been reached by schooners and brigs of war*, and up to which, as Lister Maw asserts, even frigates might sail—the river bears the name of "Rio das Amazonas." This lower third equals the Rhine in length, and receives on its right bank the gigantic tributaries which, with the exception of the first and most important, have all their origin in the mountainous regions of Brazil.

The mighty Rio da Madeira (Wood-river), so called from the large quantities of drift-wood on its stream, is covered with islands, and its length is about five hundred (two thousand Engl.) miles,—nearly equal to that of the Wolga. The aborigines call this river Cayary or the White Stream; according to the latest accounts it is said to rise between 8° and 9½° south latitude, from the

* A captain of the Brazilian navy assured me, that he once made the voyage from Pará, through the channels to the west of Marajó, to Barra do Rio Negro in a brig of war which drew sixteen feet.

junction of three rivers, two of which have their sources in the Andes,—the Mamoré, flowing from the southern declivity of the Sierra Nevada de Cochabamba, and the Beni, flowing from the snowy chain of the Sorata and Illimani; while the sources of the third, the Guaporé, lie further east in the Campos de Parecis, only about three miles distant from those of the Paraguay. Both rivers being navigable for small vessels nearly to their source, it has been contemplated to connect them by a canal,—an undertaking which, from the slight elevation of the ground that divides these rivers, would be attended with no great difficulty, and would prove of incalculable importance to the commerce with the interior of Brazil. The greatest obstacles however to the navigation of the Madeira are the numerous cataracts, five of which are above and thirteen below its junction with the Beni, extending over a length of twenty-eight (112 Engl.) miles, the passage of which takes nearly a third of the nine or ten months a canoe requires to make the voyage of 640 (2560 Engl.) miles between Pará and Villa Bella in Mato Grosso*.

Above the cataracts on both sides of the river, which is here on an average from 1700 to 2000 paces wide, we meet with those characteristic lakes, connected with the river and the neighbouring streams in various ways, and which from hence accompany its banks throughout its whole course. The direction of the Madeira, from its

* Compare Von Spix and Von Martius' 'Reise in Brasilien,' vol. 3, page 1336. According to the 'Diccionario Geographico' (tomo 2, page 12,) from three to five months only are required.

junction with the Beni to its confluence with the Amazon, fifteen (sixty Engl.) miles below the Barra do Rio Negro, a distance of 240 (960 Engl.) miles or twice the length of the Oder, lies almost in a straight, uninterrupted course to the north-east.

The Madeira at its mouth is about 2500 paces wide, from twenty-three to twenty-six feet deep, and of a muddy greenish-yellow colour; when its waters are low, they are whitish. According to Spix and Martius, the current of this immense body of water is sluggish, amounting only to from twenty to twenty-six feet (0·2 knot), as if the great stream was reluctant to become tributary to its only rival on the South American continent, the Marañon.

It may be well here to review the central system of rivers in South America, the greatest in the world, and to give a general view of its features. Two chief streams first present themselves,—the Amazon, flowing from the west, formed by the upper Marañon and the Ucayale, and swelled by numerous tributaries, but chiefly by the Rio Negro,—and the mighty Rio da Madeira from the south-west, whose sources lie in the Pampas of Moxos and Chiquitos between the Cordilleras and the high table-land of Brazil. These two rivers unite at an acute angle, and continue together in such a direction that their further united course for fifty (200 Engl.) miles to Obydos may be taken as the mean not only of both masses, but also of their velocity: hence we may regard these two main streams as the actual head-rivers of the Amazon.

The course of the Madeira, taking the Mamoré (and Guapehy) as its source, amounts to 500 (2000 Engl.) miles in length; but up to the mouth of the Amazon 640 (2560 Engl.) miles. The course of the Marañon, or Solimões, to its junction with the Madeira extends 630 (2520 Engl.) miles, and up to the ocean 770 (3080 Engl.) miles. Lastly, the Ucayale, from its source to its confluence with the Amazon, flows 710 (2840 Engl.) miles, and to the ocean 850 (3400 Engl.) miles. Thus the Madeira is second to the Marañon not only with regard to its body of water, but likewise in length. Below the confluence of the two rivers, their width amounts to two-thirds of a mile, and in parts where they form islands frequently a mile and half (six Engl. miles), while the average depth is twenty-four fathoms. In this part of the Marañon we find the Ilha dos Tupinambaránas, 42 (168 Engl.) miles long, and with an area of 250 (4000 Engl.) square miles, being nearly equal to the kingdom of Saxony. This island is formed by the Amazon and the Irariá, which branches off from the Madeira. We have before remarked, that a remnant of the once powerful tribe of the Tupinambas have retired to this spot.

At a short distance below the junction of this branch of the Madeira with the main stream, and close to the mouth of the Rio das Trombetas, (one of the rivers which flow from the Guiana mountains,) the mighty Rio das Amazonas forms the celebrated strait of Obydos, called Pauxis in the "lingoa geral,"—the second instance of a "Pongo," narrowing the great river like an oceanic

strait to a width of 2126 paces, according to the trigonometrical survey of the Portuguese Boundary Commission in 1781.

This king of rivers flows here majestically along between flat shores, in an undivided course and free of islands, and its bed hollowed to a depth which has never yet been sounded. The tide extends up the Marañon as far as Obydos, a distance of 90 (360 Engl.) miles,—or, compared with the Rhine, as far as from the German Ocean to above Mannheim; the water rising to a height of 451 feet above the level of the sea. Von Martius estimates the body of water which rushes through this strait at 499,584 cubic feet in a second: this mass however does not include the waters which three of the tributaries of the Amazon, each larger than the Rhine, pour into its stream below Obydos. From hence to Pará the Amazon even in its shallowest part is five fathoms deep, including the channels to the west of Marajó, to which we shall refer again hereafter.

Sixty (240 Engl.) miles below the mouth of the Madeira, and ten (40 Engl.) from Obydos, the dark-green waters of the Tapajós join the Marañon near the Villa de Santarem, the principal commercial town in Amazonia. Its two main branches, the Juruena and Arinos, have their sources in the Campos de Parecis, not far from those of the Guaporé and Paraguay: from their confluence, in 9° 30′ south latitude, the Tapajós continues its course nearly in a straight line N.N.E. up to its mouth, and with the Arinos offers a much nearer route by water to Mato Grosso and Cujabá than the Madeira;

moreover, although very shallow, it is less dangerous and therefore more navigated than the latter stream. By this route the cotton and numerous products of the banks of the lower river, purchased from the Mundrucús and Mauhés (so famed for their industry and skill in making feather-ornaments), but first in importance the gold-dust and rough diamonds of the mountainous districts, are conveyed to the Amazon: European manufactures are sent in return as back-freight, especially such articles as are too heavy for transport overland from the large seaport-towns of the south to the interior. The navigation of the Rio Tapajós however is not more free of obstructions than its mightier western neighbour the Madeira; it has several cataracts and rapids, among which the Salto Grande approaches in height the largest one (thirty feet high) in the Madeira; and under the most favourable circumstances it takes at least six weeks to reach Cujabá proceeding up the stream from Santarem.

Let the reader imagine the length of the Oder added to the Vistula, and he will have the course of the Tapajós, about 250 (1000 Engl.) miles long; but by taking twice the length of the Rhine from the Rheinwald-glaciers to the lock at Katwyk-op-Zee, we have the course of the great Xingú, which flows through a territory of nearly 300 (1200 Engl.) miles, but is little visited. At about fifty (200 Engl.) miles below the former river, near Porto de Moz, its clear waters join the Amazon: its sources lie in the Serra dos Vertentes, south-east of the Campos de Parecis, between 14° and 15° south latitude, and about

half way from Cujabá in Mato Grosso to Villa Boa, the chief city of Goaz. The course of the Xingú, from its sources to its junction with the Amazon in 1° 41′ south latitude, is generally from south to north; but in its lower part it makes a great bend to the south-east, which terminates just above Souzel, near the last place inhabited by whites, and opposite the junction of the Tucurui.

These brief remarks respecting the Xingú will suffice for the present,—we may resume them in a subsequent part of the narrative: before leaving this river however, we must again allude to the Serra de Almeirim, or de Parú, north-west of Porto de Moz in 53° west longitude, as the only elevation which De la Condamine observed, in his navigation of the river from the foot of the Andes to the Atlantic a century ago.

Even west of the junction with the Xingú, the Amazon appeared to Von Martius as wide as the Lake of Constance. Below that point the river, which in its course through the lowlands keeps between the parallels of 5° and 1° 30′ south latitude, expands like an arm of the sea and is interrupted by numerous islands. The northern main branch now flows in the direction of N.N.E., first under the name of the Rio de Macapá, but afterwards under that of the Canal de Braganza do Norte; and between Cape Magoarí, on the island of Joannes or Marajó, and Cabo do Norte, it pours into the ocean with an embouchure 33½ (134 Engl.) miles wide, divided into three arms by the islands of Caviana and Mexiana. A second and inferior branch, the Rio de Gurupá,—

so called from the town of the same name on its bank,—is separated by numerous islands (the Ilhas de Gurupá) from the former branch, and flows for some distance in a more easterly direction. While this southern branch rejoins the Canal de Braganza on the north-west of Marajó, a part of it, eighteen (seventy-two Engl.) miles below the junction of the Xingú, forms a ramification of natural canals, which separate the marshy shores of this island from the western main-land, and flows through it in a S.S.E. direction.

These branches of the Marañon unite, on the south-west side of the island of Joannes, with the waters of the Uanapú (Anapú, Guanapú), the Pacajaz, and the Jacundaz, forming an extensive bay, which bears the appropriate name of Rio (or Bahia) das Bocas, and has quite the appearance of a freshwater sea, separating the island of Marajó on the south and east from the main-land. It continues its course to the east and north, under the name of the Pará river*, and at about half way to the sea is joined by the third of the gigantic rivers belonging to this system,—the olive-coloured, Ganges-like Tocantins, whose course is 400 (1600 Engl.) miles in length. This stream is soon afterwards joined by the following rivers, which, though their course is short, have a great quantity of water,—the Rios Mojú, Acará and Guamá, the common embouchure of which into the Pará is named Bahia de Goajará. The Pará

* "Pará" signifies river or stream in the language of the Tupinambas. See De la Condamine's 'Journal du Voyage,' etc., page 195.

ultimately flows into the Atlantic between the Ponta de Tigióca and Cape Magoarí, forming an expanse of water $8\frac{5}{8}$ ($34\frac{1}{2}$ Engl.) miles in breadth. Some geographers do not regard the Pará as belonging to the fluvial system of the Marañon, and consider that it is merely the embouchure of the Tocantins, an independent river, and only communicating with the Marañon by the system of natural canals. From this opinion we must beg leave to dissent, for reasons which we shall state hereafter. If therefore we reckon the island of Marajó—with a superficies of 600 (9600 Engl.) square miles, equal to that of Sicily—surrounded by the waters of the Amazon and its tributaries, as belonging to the delta of that river, the mouth of the Amazon from the Ponta de Tigióca to the Cabo do Norte will be $44\frac{1}{4}$ (177 Engl.) miles wide,—nearly the extent between Monte Circello on the Pontine Marshes and Cape Gallo near Palermo, or the Baltic in its widest part, between Courland and Cape Torhamn-Odde.

The Tocantins is formed by two rivers of almost equal length, separated by the Cordillera Grande. The western branch is called the Rio Araguaya as far as their junction in 5° south latitude; and the eastern branch is from its commencement known by the name of the Tocantins. The sources of the latter lie in about 16° south latitude, in the eastern part of the Serra dos Vertentes, from the southern declivity of which the rivers flow toward the Paraná close to Villa Boa, where the three great commercial roads of the interior of Brazil unite.

One of these three roads leads from this mountain-knot across Mato Grosso by way of Cujabá and Villa Bella to Bolivia, where it ascends up to the celebrated Andes valley of Potosi, situated 12,520 feet above the level of the sea. Another similar path for beasts of burden takes a northern direction from Villa Bòa toward Palma, in the province of Goyaz; it then turns off to the east, across the mountains to Bahia. At its termination here it joins the road from Pará, which passes through the interior to San Luiz do Maranhão, and from thence, running again through the Sertão (the interior) leads along the great bend of the eastern coast to Bahia. The third chief commercial road, which starts from Villa Boa, establishes a communication with the east and south by way of Paracatú and Villa Rica,—on the one hand with the metropolis of the empire, and on the other with the provinces of S. Paulo and Rio Grande.

After this digression we return to the Tocantins. The sources of the Araguayá lie nearly in the same meridian as those of the Xingú, and two degrees further south than those of the eastern main trunk, which is also much more abundant in water. In its upper course the latter river flows through a country which acquired great celebrity at the commencement of the last century from its gold-mines. The region of the cataracts forms, in all the great southern tributaries of the Amazon, the division between their lower course, where they flow through wooded plains, and their upper course, through a low tract of country ("Campos"), where the vegetation on the banks of the rivers consists merely of small,

tortuous trees of the mineral district, with leaves of a less vivid green and less succulent than usual,—a circumstance which, as well as the nature of the rocks, leads us to infer the presence of gold. The cataracts and rapids of the Tocantins cease north of the fourth degree of south latitude, and from this point the river enters the low plains. The Xingú only enters these plains at three degrees and a half south latitude, and Tapajós at five degrees. These points at the same time indicate the northern limits of the Brazilian high table-land, which is traversed by these streams in an oblique direction.

At only a few miles from the mouth of the Tocantins, and on its left bank, lies the town of Cametá, called also Villa Viçosa, the circuit of which comprizes twenty thousand inhabitants. If the commerce on this fine stream increase, as is to be hoped, this will one day become a very flourishing place. Nature seems to have intended this river to be the high-road of commerce, connecting it with the neighbouring stream on the left, the Jacundaz, by natural bifurcations; while close to its mouth it approaches so near the Rio Mojú by means of the Anapú and the Igarapé-mirim, that a complete communication has been established by making a short cut between the two rivers. This forms a safe and easy passage from the Tocantins into the Bahia de Goajará, and from thence to the metropolis of the province of Pará, the town of Santa Maria de Belêm do Grão Pará, situated near the point where the Rio Guamá enters this bay of the Pará, distant about seventeen (sixty-eight Engl.) miles

from the sea, in 1° 27′ south latitude, and 48° 30′ west longitude*. The large sand-banks which lie before the two great mouths of the Amazon render the entrance of the river very perilous. There is here also another source of danger, arising from a natural phenomenon never satisfactorily explained,—the Pororóca, which occurs during the spring-tides, at a new or a full moon, and is most severely felt in the equinoxes, especially the vernal equinox. This phenomenon is observed not only in the main-stream, but also in some of its tributaries near the sea, and in other rivers along the coast. Instead of the rivers rising regularly, the ebbing of the outflowing mass of water is prolonged, and meeting the flood it raises the tidal wave in a few minutes to its greatest height; when the latter, overcoming the still ebbing stream, presses it down, rolls over it, and rushes up the river, in appearance like a wall, with such force that the roar is heard at a distance of a mile and half, or six English miles. This destructive tidal wave sometimes occupies the whole width of the river: on coming to a shallow place, it rises to a height of twelve to fifteen feet; but in deep water the wave almost wholly sinks or disappears, rising again where the water is less deep. Those who navigate the river call such deep parts "Espéras," places of refuge, where even small vessels lie secure from the raging Pororóca, especially if the precaution is taken to fasten them to a tree on the bank, as the cable of the anchor is apt to

* According to the latest observations, Lieutenant Raper, R.N. places Fort S. Pedro at Pará in 48° 30′ 30″ west of Greenwich.

snap, from the great strain occasioned by the change in the level of the river. The longer and quicker is the ebb, the stronger appears the Pororóca; while the numerous shallows of mud and sand in the bed of the river, with the contractions in its channel and other local causes, seem to affect this phenomenon equally. Most observers report that they have seen three or four of these waves following one another, each successive body of water replacing in turn the preceding overfalling mass. As soon as the Pororóca has passed, the river resumes its previous state of full ebb: the phenomenon is however said to re-appear during the three following days as soon as the flood sets in*.

Ebb and flood are of the greatest importance in the navigation of the Amazon, in those parts affected by their influence,—in some instances presenting obstacles, in others facilitating the navigation. A sailing vessel can make way slowly against the tide, and it is very difficult to contend with it for any length of time with oars; it is therefore usual to lay-to while the tide is unfavourable. The tides indeed act such an important part, that they are taken as a measure of distances, which are reckoned after "Marés," a term designating

* Among other similar phenomena are the Rat d'Eau in the Dordogne, and the Bore or Hyger in the Hoogly river, and several other branches of the Ganges. A reverse appearance takes place in the river Essequibo, where the current overpowers the flood, and the water of the river forms a similar wave, which rushes against the tidal wave. The natives ascribe the Pororóca to the influence of evil spirits: according to Eschwege the word signifies in their language to cause a report, bustle or noise. See 'Brasilien, die Neue Welt,' vol. 1, page 156.

the distance a vessel can proceed during one ebb or flood.

In consequence of the great length of the Amazon, in its course from the interior of the continent, the rising of the river takes place in different parts of its stream at various periods. While the Marañon in Maynas, at the foot of the Andes, rises rapidly as early as January, the waters of the Solimões do not begin to swell until February; and below the Rio Negro, the Amazon does not reach its greatest height before the end of March or beginning of April. The intervals between the rising and falling of the main-stream are comparatively trifling, as there is of course a considerable difference in the rise and fall of its tributaries, lying partly in the southern and partly in the northern hemisphere. The northern tributaries have less influence on the Amazon than the gigantic ones which flow from the south, and commence rising suddenly in November, in consequence of the swelling of the mountain-streams. The Madeira however produces the greatest effect on the Amazon; this river has a copious supply of water, the highest and lowest state of which coincides with that of the main-stream. In the river Solimões and further to the east the water rises forty feet: Von Martius even found some trees covered with the mud of the river up to a height of fifty feet above the lowest level. At these periods of high tide the land on the banks of the Marañon, lined with forests through which the flood rushes, appears as if drowned in the boundless rolling mass of waters. The tallest trees tremble with the shock, while numerous

trunks are torn up and swept along by the flood. The wild-beasts fly to the higher parts of the country, and fishes and alligators swim where the jaguar and tapir lately roamed through the woods. A few species of birds only, which build on the highest trees (among others the macaw) remain unscared by the uproar of the elements that breaks the usual stillness of the forest. This inundation annually causes new islands to arise, and others to disappear: the banks take new forms, as the stream washes them away in some parts and deposits the soil on others; frequently a large island is thus divided into several smaller ones, or numerous islets are united into a large one; nor is it improbable that the many lakes which are found along the course of the Marañon and the Madeira, connected with the river, may have been originally caused by these inundations.

Herr von Martius estimates the average velocity of the Amazon along its banks at 0·75 knot, and in the middle of the stream at 1·5 knot an hour. Lister Maw gives the velocity at 4 knots, but observes that it may probably be less during the dry season: this nearly agrees with the statement of Lieutenant Smyth, R.N. and Mr. Lowe, according to whose chart the average velocity, from the mouth of the Ucayale to that of the Rio Negro, amounts to 3·3 knots. The variance in these conflicting statements arises from the difficulty of obtaining a mean velocity of the current, which changes so continually in its course. Lister Maw even estimated the current, in some parts of the Solimões, where the stream was very strong,

at five knots, and De la Condamine found nearly a similar velocity at the point where the Marañon becomes navigable. Much depends also on the quantity of water in the bed of the river; for instance when the Madeira is high, the stream near its mouth appears to be almost motionless. The season of the year must likewise be taken into account, and lastly the circumstance whether the velocity is measured near the banks, where a back-current is frequently perceptible, or in the middle of the stream.

The same remarks likewise apply to the different admeasurements of the depth of the river. We have above stated merely the average depth, but it may be of interest to mention the most striking deviations from this mean. Near the junction of the Ucayale, where on an average it is from eight to twelve fathoms deep, De la Condamine found no bottom with a line of eighty fathoms; and at a spot below Coary, where the average depth is fourteen to sixteen fathoms, none with a line of a hundred and three fathoms. All travellers agree that the depth in the straits of Obydos is very considerable, but it has never been ascertained with certainty. The influence of the ebb and flood, as we have observed, extends on an average up to this point, a distance of a hundred (four hundred Engl.) miles: we say on an average, as Smyth and Lowe noted the tide only at Gurupá during the greatest height of the river. Some travellers pretend that they have tasted the fresh water of the Marañon out at sea at a distance of fifty (two hundred Engl.) miles from its mouth, but this appears to be an

exaggeration. The sea-water of the equatorial current is forced up the river beyond the Ponta de Tigióca, and only turns northward at this point; while the fresh water of the Amazon follows the western coast and reaches only as far as the Cabo do Norte.

This extensive bay of fresh water which the Marañon opens to the ocean is said to have given rise to its name. When the first discoverers, in 1500, under the command of Vicente Yañez Pinzon, entered the gigantic embouchure, some of them in amazement enquired, "Is this still the sea (*Mar*)?" and were answered, "No" (Spanish *non*, Portuguese *não*); by the contraction of the two words were formed the Spanish name Marañon and the Portuguese Maranhão. This derivation, although not historically authentic, is the one usually received.

Thirty-one years after the discovery of the Marañon, a Spaniard named Diego de Ordas tried to enter its mouth, as well as that of the Orinoco, but failed in the perilous attempt with the loss of one of his vessels. The enterprize however was soon after accomplished from another point, by Francisco de Orellana, the first, as I have observed, who coming from the Pacific discovered the Marañon from the west, and sailed down it from the mouth of the Napo to its embouchure in the ocean.

The motive of this remarkable expedition was as follows. Scarcely had Francisco Pizarro, whose name is mentioned by history with horror, appointed his brother, Gonzalo Pizarro (who if possible surpassed him in cruelty) governor of the province of Quito in 1541, when the latter resolved to undertake an expedition across the

Andes. The traditional reports of "El Dorado" instigated him to this project of penetrating to the very heart of the continent,—that tradition which proved fatal to so many Spaniards, alluring them on further and further into the country like a phantom, which continually fled as they advanced; while the natives, taking advantage of the Spaniards' lust for gold, shifted the seat of the mythic tale to more and more distant regions, in order to escape from the cupidity and cruelty of the Europeans.

The story of "the Gilded King*," and his marvellous city of Manao, where three thousand goldsmiths were constantly employed,—of its fabulous gold-land, its three mountains, of gold, of silver, and of salt,—all prompted Gonzalo, misled by the accounts given by the Indians, to go in quest of these marvels toward eastern Peru. No wonder that his curiosity and cupidity were excited by such tales, of a monarch who every morning anointed himself with fragrant oils and gum, and then had his attendants blow upon him gold-dust through long tubes; whilst every night, lest this vestment should prevent sleep, the prince had the gold washed off, and his majesty was re-gilded in the morning. The search after this king was the object of Gonzalo's expedition: he was accompanied by two hundred men on foot, and a hundred on horseback, beside four thousand Indians who acted as porters; a herd of four thousand hogs and Indian sheep followed them. After encountering many disasters, and crossing with difficulty one of the arms of the Cordillera, Gonzalo

* He was also called Grand Moxos, Grand Paytiti, Enim, and Grand Paru. See Southey's 'History of Brazil,' vol. 1, page 372.

reached the valley of Zumaque, where he was joined by Francisco de Orellana, a knight from Truxillo, who had followed him with thirty horses.

On reaching the Caco (Coca), a tributary of the Napo, after many perilous adventures, the intrepid Spaniards built a brigantine upon its banks, to serve for the transport of the sick and the conveyance of troops from one shore to the other, and which, sailing along the river, was to accompany the expedition, as the latter proceeded along its banks. The Spaniards advanced thus for a great distance down the stream, until at length the incessant rains, and the frequent wading through morasses and inundated savannas, produced such exhaustion and sickness that their numbers rapidly fell off; and, after a thousand Indians had fallen victims to hardship and disease, Pizarro resolved to despatch Orellana with fifty men in the brigantine to the junction of the Caco with the Napo, distant eighty to a hundred leagues, —a tract which was described as very fertile,—to procure provisions for the expedition.

When Orellana reached the Napo, he saw the impossibility of returning with his weakened crew through a barren country,—compelled as they had already been to eat boiled shoes and leather straps; he therefore got them to elect him their absolute leader, and on the 31st of December, 1541,* continued the voyage with his

[* There is great confusion respecting the dates in this expedition under Orellana: Herrera states explicitly that it reached the sea on the 26th of August, 1541: it was therefore the 31st of December, 1540, when they reached the Paranáguaçú. See Herrera, 'Historia de las Indias Occid.' Madrid, 1601–1615: page 25.—R. H. S.]

crew down the Napo, and at length reached the mighty Paranáguaçú*, as the natives called the Marañon. In many parts the banks were for a great distance uninhabited; then again the Spaniards, who were reduced to desperation by hunger, met with tribes of Indians, by whom they were variously received,—sometimes hospitably, while at others they were obliged to fight their way, when the two brigantines (for a second had been constructed) always came off victorious. Orellana never lost an opportunity of taking possession of the land along the river, in the name of the King of Castile, which he did with the usual solemnities, much to the astonishment of the natives.

The bold adventurers had for some time heard reports of a nation of "Amazons," who were said to inhabit the interior: on the 22nd of June, 1542, after they had proceeded down the river a distance computed at 1400 leagues, they for the first time saw ten or twelve of these heroines, who at the head of their subjects fought valiantly with the Spaniards. The obstinate resistance of this tribe was explained by the circumstance, that these fair tyrants put to death every one in their army who attempted to run away.

Orellana describes the Amazons as of large stature and fair complexion, with long, smooth hair, which they wore twisted round the head. Their only dress consisted of a girdle; a bow and arrows were their arms. Seven or eight of these fair warriors were killed on the spot, whereupon the rest took to flight. Other hordes of

* Paranáguaçú signifies "great sea."

Indians however soon after made their appearance, and the Spaniards were obliged to retreat to their vessels, without capturing any booty. If the information which Orellana pretended to have received from the natives is to be believed, there were walled cities in the country of the Amazons, and temples covered with gold.

After sailing thus for nearly eight months, during which time Orellana reckoned that they made 1800 leagues, encountering numerous perils and escapes, the two brigantines gained the open sea, on the 26th of August, and on the 11th of September arrived at the island of Cubagua, from whence Orellana returned to Spain. He there received full pardon for his desertion of Gonzalo Pizarro, and obtained permission to conquer and seize for the Crown of Spain the countries he had discovered (without interfering with the Portuguese territory), under the name of Nueva Andalusia. Orellana in consequence set out, in 1544, on a second voyage to the mouth of the Amazon. He lost his way, and wandering about for many months among the labyrinth of streams and islands, making fruitless attempts to regain the main river, he, together with many of his followers, fell sick and died. His name was formerly given, and is so still by some writers (among others by the historian Southey), to the Marañon,—an honour to which the spirit and intrepidity of the Spaniard had certainly good claim: but if the name Rio das Amazonas has come into general acceptation, Orellana himself was the cause of this; since his poetical descriptions of the pretended race of Amazons gave to the king of rivers a peculiar and

mysterious nimbus of romance, which thenceforth became inseparably associated with the mention of the river.

In the following year, 1545, the tradition of the Amazons was revived, and transferred to a district further south. The Conquistador of Paraguay, Fernando de Ribeira, asserted that he had heard reports of such a female race in the twelfth parallel of south latitude. A second expedition down the Marañon was undertaken some time afterwards, from the Andes to the Atlantic, but this was involved in some obscurity, and yielded no new authentic information respecting the tradition. Sixteen years after the death of Orellana, in 1560, Piedro de Ursua made an attempt to reach the Amazon from Cuzco, but he was killed on the way by the infamous Lopez d'Aguirre, who continued the expedition to the ocean. In 1595 another adventurous traveller appeared, Sir Walter Raleigh, who placed the country of the Amazons on the banks of the Tapajós.

Twenty years later Alexandre de Moura, after conquering S. Luiz do Maranhão and expelling La Rivardière with his French garrison, despatched Francisco Caldeira de Castello Branco, with three carvels and two hundred men, to explore the country near the mouth of the Amazon, to which, in common with the river, the Portuguese gave the name of Grão-Pará, ordering him to take possession of it under the title of a Capitão-Mor. On the 3rd of December, 1615, Caldeira arrived near the point where the Mojú, the Acará, and the Guamá join the river Pará; here he constructed a fort, and thus

laid the foundation of the subsequent metropolis of these extensive regions, Nossa Senhora de Belêm.

Caldeira at first got involved in troubles with the Dutch, who had settled on the north bank of the Amazon and were engaged in commerce. He sent the courageous "Alferes" Pedro Teixeira against a large Dutch ship anchored at a distance of forty leagues from Belêm, which he set on fire after an obstinate resistance.

The new Capitão-Mor in a short time fell in with the Tupinambas, who, warned by cruel experience in the province of Pernambuco, took up arms to expel the Portuguese. Caldeira was soon after removed from his command, but the strife with the Indians continued with little interruption under his successors, who governed the province of Pará partly by Capitães-Mores, under the command of the Governors of Maranhão and Ceará, and partly as independent rulers. In both cases they persecuted the natives in the most cruel manner, allowing their countrymen to traffic in these poor Indians as slaves, who were sold in the market at Belêm. The history of the province of Pará, so remote not only from Lisbon but also from Bahia and Rio de Janeiro, the seats of the former Governors-General of Brazil, has at nearly all periods been isolated, devoid alike of pleasing and of great events: we read only of the appointment or removal of Capitães-Mores, the ejection and return of religious orders, internal disputes and rebellion, expeditions against the natives, and contests with the Dutch and other settlers on the Amazon. We leave this page of history and turn to a more interesting subject,—the

expeditions of some of the adventurers who explored the greatest river of the world.

Two Franciscans, belonging to a mission which was broken up, imitated the example of Orellana; and accompanied by six soldiers, whose captain was slain by the Indians, they followed the course of the Napo and the Marañon, and ultimately reached the ocean. Shortly after, in October, 1637, the first expedition was sent up the river to Quito, which at that time acknowledged the authority of the crown of Portugal. Pedro Teixeira undertook this voyage, which was successful, and, without reckoning the journey overland, occupied ten months. He was accompanied by seventy soldiers and twelve hundred Indians, archers and rowers: but including the women and slaves, the whole expedition amounted to nearly two thousand individuals, who embarked in forty-five canoes. The chief object of this voyage seems to have been the subjugation of the tribes along the banks of the Amazon; and the Portuguese were the more incited to prosecute it, from the partiality which the Indians appeared to evince for the Dutch and English, who were still anxious to effect a settlement in these regions: the former indeed had already extended their commercial enterprize as far as the Tapajós. On his return to Quito, the courageous Portuguese was received with great solemnity, and bullfights were given in his honour.

In 1639 Teixeira set out on a second expedition, from Quito to Nossa Senhora de Belêm: this time he was accompanied by the learned Jesuit Fray Cristoval d'Acuña, who has left a detailed description of their

voyage: in this he also mentions the tradition of the Amazons, and says that at that time these heroines had commercial dealings with the tribe of the Guacarás on the Rio Cunuris, which Von Martius considers to be the Rio das Trombetas, carrying on with them also an intercourse which secured their race from extinction. According to custom the Guacarás repaired once a year to the mountainous country at that time inhabited by the Amazons, whom they met armed on the banks of the river: as soon however as the fair warriors were assured that these visitors were their friends, they hastened to their canoes, and each took up the hammock of one of the Indians, carried it off and slung it up in her hut, to secure in this manner its owner for her companion during the season. In the following year the fathers came, according to some accounts, to carry away the boys to whom the Amazons had given birth, leaving the girls behind with their warlike mothers. Other accounts however say that the Amazons slew their sons, and this seems to be more probable, as otherwise there would have been a surplus male population in the tribe of the Guacarás.

After the voyages of Pedro Teixeira, an expedition was undertaken in the years 1689 to 1691, by Father Samuel Fritz, a Jesuit from Bohemia, who published a map of the river. At that period the navigation of the Marañon was no longer of extraordinary occurrence: it superseded the dangerous voyage round Cape Horn, and the way from Peru to Europe was accomplished with greater security. The Amazon and its tributaries became gra-

dually more known, and in the year 1710 the Portuguese may be said to have possessed a fair geographical acquaintance with the course of this river. The population of Nossa Senhora de Belêm was considerably increased by the arrival of emigrants from Fayal, after the devastation of that island by a volcanic eruption in 1676; and in the year 1719 the city was by a royal ordinance raised into a bishopric, with a jurisdiction extending over Portuguese Guiana, Mato Grosso, and Goyaz. The province of Pará was ultimately, under the Marquis de Pombal, incorporated in the list of Capitanias under the name of Estado do Grão Pará. Notwithstanding the acknowledged care and prudence of this statesman, both toward the natives and the colonists,—the latter of whom were indebted to him, among other benefits, for the foundation (in 1755) of a commercial company in Pará and Maranhão with exclusive privileges,—the disturbances in the province were not allayed until the expulsion of the Jesuits in 1759. It is not our intention here to judge of the purity of the intentions of this Order, or the mode of their execution; but the missions of the Society certainly produced the best results in civilizing the savage tribes of the interior. With the expulsion of the fraternity commenced the decay of the aldeas, or Indian villages, in Pará, and Pombal vainly expected better results from his subjecting the settlements to secular superiors. At the same time the most stringent laws were made for the entire abolition of slavery among the Indians, but unhappily negro slavery followed in its place.

In the year 1743, about a century after Teixeira's voyage, occurred the celebrated expedition of De la Condamine from Jaën de Bracamoros down the Amazon to Pará, to which we have already alluded. This voyage, which occupied only two months and a half, produced the most important results for science, especially in extending a knowledge of the geography of the Marañon by De la Condamine's map. The great academician sought everywhere for information respecting the tradition of the Amazons, which was still current among the people on the banks of the river, although he did not himself give full credit to the tale. All the reports agreed in stating that the Amazons had long before changed their residence, and coming from the south had crossed the Marañon, and directed their course to the Rio Negro or some other of the northern tributaries. M. de la Condamine was told by a chieftain at Coary that his grandfather had himself seen these females, who had come down the Cayamé (a southern tributary which joins the Amazon below the Teffe) on one of the mouths of the Purús (the Cuchiuuara), passing on their way to the Rio Negro; and that he had conversed with four of these Amazon women, one of whom had a child at her breast. An old soldier of the garrison at Cayenne, who had settled near the cataracts of the Oyapok related to M. de la Condamine that, in 1726, he was accompanying a detachment of soldiers on a journey of discovery into the interior, when, on arriving at the sources of the Oyapok, they met a tribe of Indians, with long ears, among whom the women wore green stones (the famous

Amazon stones) round their necks: being asked where they had obtained these, they replied, "from the women without husbands, who live at a distance of seven or eight days' journey further to the west." According to other accounts, they were said to dwell on the banks of the river Irijó, which falls into the ocean between Macapá and the Cabo do Norte. Southey observes that De la Condamine so far gives credit to the tradition, as not to question the former existence of the Amazons, although he doubts their present existence. The English historian does not share such doubts, and thinks it probable, from these various reports, that there still survives a race of Amazons, especially as the accounts were in a great measure confirmed thirty years afterwards by the Portuguese astronomer Ribeiro, the missionary Gili, and others.

Alexander von Humboldt, during his remarkable travels in the equinoctial regions of the New World, in the years 1799-1804, coming from the Orinoco, navigated both the Rio Negro and the Upper Marañon. He thinks it probable that the women of some tribe or other, tired of the oppression of their husbands, fled into the wilderness, and, like the Maroon negroes, united into hordes or Palenques, and adopted a warlike mode of life for self-preservation: nor was it difficult for the excited imagination of the Conquistadores to magnify the numbers of such a horde into a whole nation of Amazons.

Herr von Martius, in company with Herr von Spix, undertook a voyage on the river Amazon in the years 1819 and 1820, which proved of great importance to the interests of science. The voyage up the stream occupied

four months and a half, and down the stream three months: although it extended only as far as Tabatinga, they also explored the Yupurá and the Rio Negro to a great distance. Von Martius states plainly his disbelief in the existence of the Amazons: he is of opinion that the fable originated in the simple fact—variously embellished and exaggerated—that in the time of Orellana the women accompanied their husbands in their wars, as is still the case with the Mundrucús.

Another German naturalist, the celebrated Professor Pöppig, accomplished a voyage down the river in eight months and a half,—August, 1831, to April, 1832,—from the confluence of the Huallaga to the ocean. The English traveller Lister Maw proceeded in 1828 from the mouth of the Huallaga in three months, and Smyth and Lowe in 1835 from the mouth of the Ucayale to Pará in two months and a half; but none of these travellers appear to have taken any greater interest in the tradition than Von Martius. Mr. Richard Schomburgk, who in 1840 accompanied his elder brother Sir Robert on his last travels in Guiana, has given the latest information on this subject, in the monthly Report of the Geographical Society of Berlin*, where he relates as follows:—"The chieftain (of the Arawaaks on the river Demerara) told us that his brother, who lived on the upper Mazaruni, had several times visited the Amazons, and on one such visit had received one of the green stones as a present from the Woruisamocos, as they called themselves.

* New Series, vol. 3, page 33. Berlin, 1846.

They till the fields without the assistance of men, shoot with bows and arrows and a blowing-tube, allow the visits of men only once annually, and destroy all their male offspring at birth. These women at the same time commissioned him to induce the men of his tribe to visit them once a year, but desiring that their number should never exceed twenty. Our hopes of obtaining more certain information respecting these fabulous women were not realized, and our voyage to the sources of the Corentyn has driven them from this their last retreat."

The province of Pará was the last in Brazil that acknowledged Dom Pedro the First as emperor, and this not until 1823, when the city surrendered to an imperial brig of war commanded by Captain Grenfell. The counter-revolution which broke out shortly after was soon suppressed, and two hundred and fifty-three of the insurgents were imprisoned in a ship of six hundred tons. The prisoners made an attempt to escape, and the sentinels fired on them through the hatchways, when the miserable men, excited to desperation by the stifling heat and confinement of their prison, fell to attacking and tearing one another in the most inhuman manner. This scene was accompanied with all the horrors of death by suffocation, and the next morning out of the two hundred and fifty-three only four survived, who had concealed themselves behind a water-cask.

Many similar scenes of horror occurred during the insurrections which ensued, when thousands of prisoners languished in the forts, until death released them. It is said that, on board the prison-ship 'Xin-Xin,' above

three thousand persons perished in the course of five or six years.

The last great rebellion broke out in January 1835. The troops rose first, on the seventh of that month, and murdered the President, the Commandante das Armas, and the Captain of the Port. A subaltern officer named Gomez then headed the rebellion, and began a most cruel slaughter of the Portuguese, liberating at the same time the greater part of the prisoners. Among the latter was Felix Antonio Clemente Malcher, who had recently headed an insurrection on the Rio Acará. This man was now elected President, but was soon deposed, after a short resistance, by the new Commandante das Armas, Francisco Pedro Vinagre, who sent him to the fort near the bar below Belêm, but on his way he was murdered.

An attempt by a fleet of thirteen sail to recover the city, on the 12th of May, failed; but the new President, Rodriguez, who had been sent from Rio, succeeded in taking Pará on the 24th of June, and the city was for the moment free of insurgents, who retired to the interior of the province. Vinagre however, returning at the head of a numerous band of Indians, succeeded, amidst a general massacre of the whites, in retaking the city on the 14th of August, but lost his own life in a combat in the streets. Pará now became the seat of a reign of horror and anarchy, which soon extended over the whole province; nor was order restored until May, 1836, with great bloodshed, when the imperial General Andréa, who had been chosen President, arrived at Pará.

These disturbances were the fruits of the ceaseless oppression which the white population had, from the very first, exercised on the poor natives, and in no part of Brazil more than here.

It can scarcely excite wonder, after the occurrence of such events, that the number of inhabitants in the province of Pará has in late years rather diminished than increased: this applies chiefly to the Indians living in villages (aldeas), who formerly amounted to sixty thousand, but are now reduced to less than half that number. The superficial area of this great extent of land, which stretches from the ocean to the frontier of Peru, or from 46° to 72° west longitude, and from 6° south latitude to 4° 10′ north latitude, comprises 50,000 (800,000 Engl.) square miles,—ten times the size of Prussia; but the population, even including 10,000 wild Indians, amounts only to from 200,000 to 239,000 souls, or a little more than half that of Berlin. The area of this single province forms nearly two-fifths of the whole surface of the empire (Brazil comprises 130,000 German, or 2,080,000 English, geographical square miles), while the inhabitants, assumed at 200,000 souls, form only the thirty-fifth part of the whole population of Brazil (taken at seven millions of inhabitants). In the province of Pará consequently there are only four persons to the German square mile, or one to every four English square miles; while in the most barren district of Russia,—that of Archangel, half of which lies within the polar regions,—there are sixteen persons on the same surface, or four to each English square mile.

According to other accounts, the great uncertainty respecting the population of the empire chiefly extends over the province of Pará*. The president of this province states, in his official report for the year 1841, that there were only 109,960 inhabitants, exclusive of the upper district of the Amazon, "where," he says, "many report that there are from 30,000 to 40,000 souls," which would give for the total population of Pará from 140,000 to 150,000. The president himself however declares this statement to be too low, and that the province has a population nearly if not quite amounting to 200,000 persons, which number we have adopted in the above remarks. Beside the native tribes, the population of the province consists of whites ("brancos"), people of mixed descent ("cafusos"), among whom the Indian blood generally predominates, negroes, and the so-called "tame Indians" ("Indios mansos"), or those aborigines who have settled among the white population. The blacks and mulattoes are here less numerous than in any other part of the empire, as up to the year 1755 the Indians did all the slave labour: at that period king Jozé first permitted them to become free, and negro slaves were only introduced subsequently.

The province of Pará possesses an equable equatorial climate, which is moderated by the trade-winds coming from the ocean through the broad and open mouth of the

* 'Proposta e Relatorio,' etc. for 1841, page 25. According to the 'Diccionario Geographico,' vol. i. p. 208, the census of 1840 gave the following results:—139,000 civilized inhabitants ("habitantes civilizados"), and 100,000 wild Indians ("Indios bravos").

Amazon; while the shady forests shelter the moist and fertile soil from the scorching rays of the sun. To use the words of Von Martius, Pará, at the antipodes of the Moluccas, forms the garden of Brazil: indeed no other place in the empire can boast so rich a list of exports as the chief city of this province, comprising no less than forty articles, among which are some animal products, mostly from the island of Marajó, where much cattle is bred*.

The whole breadth of the Pará between the island of Marajó and the city amounts to four miles and three-quarters (nineteen English miles); but a number of wooded islands, the largest of which is the Ilha das Onças, extend from the double mouth of the Rio Mojú and the Guamá to the Bahia de San Antonio, situated below Belêm, and prevent Marajó and the chief arm of the stream from being visible to the inhabitants of Pará.

* The articles of export are as follows:—sugar, brandy made of sugar, molasses, coffee, cocoa, vanilla, cotton, balsam of copaiva, tow, pitch, copal, fustic (Guriuba), ornamental wood for cabinet-makers (as Moira-piuima, Jacarandá, Pão violete or de Rainha, Pão setim), timber, tobacco, cordage made of the fibre of palm-trees (Piaçaba), sarsaparilla, rice, grained mandioca-flour (tapioca), fine starch-flour (goma) prepared from the roots of the mandioca or from other tubers, Indian-rubber (here called seringa), Pichurim beans (Favas de Pucheris, Pechurim), Tonka beans, preserved tamarinds, clove-cassia (*Cassia caryophyllata*) called here Cravo do Maranhão, indigo, rocou, Brazil nuts (castanhas do Maranhão), and small quantities of cinnamon, cloves, nutmegs, guaraná, chica and amber: furthermore the produce from cattle, namely raw and dressed hides, horns and horn-tips, and horses. See Spix and Martius' Travels, vol. 3. p. 911. The exports of the province amounted in the year 1836 to 821,622 millereis, and rose in 1839 to 1,236,857 millereis, showing however a difference of 322,000 millereis less than the imports. See 'Diccionario Geographico,' vol. ii. page 210.

Hence arises the short arm of the river, extending from south to north and two nautical miles broad, named Bahia de Goajará, a designation which is sometimes given also to the mouth of the Guamá. The main channel on the other side of these islands forms an expanse of two miles and a half (ten English miles).

On the north-east side of a point which projects below the mouth of the Guamá, from the wooded main-land into the river Pará, is situated the city of Nossa Senhora de Belêm, the population of which, in consequence of the frequent rebellions, has decreased since 1819 from 24,500 to 10,000 persons. Casting a glance from the roadstead toward the Guamá, a hill is seen to rise precipitously from the river, crowned with a group of high buildings surmounted by the cathedral with its two towers. From hence the town extends for nearly a quarter of a mile (one English mile), down the flat banks of the stream, until it is again bounded by the forests which stretch from south to north. At a short distance above the town lies the arsenal of the imperial navy, where we saw a frigate which had been seventeen years on the stocks. It is to be regretted that this establishment,—one better adapted perhaps for a dockyard than any other spot in the world,—is not of greater importance; there would be no want of timber here for the next thousand years. A magnificent avenue of mango-trees leads from hence between two canals through fields at the back of the city; these are crossed by numerous trenches, which are filled when the flood-tide sets in. At the opposite end of this avenue is an

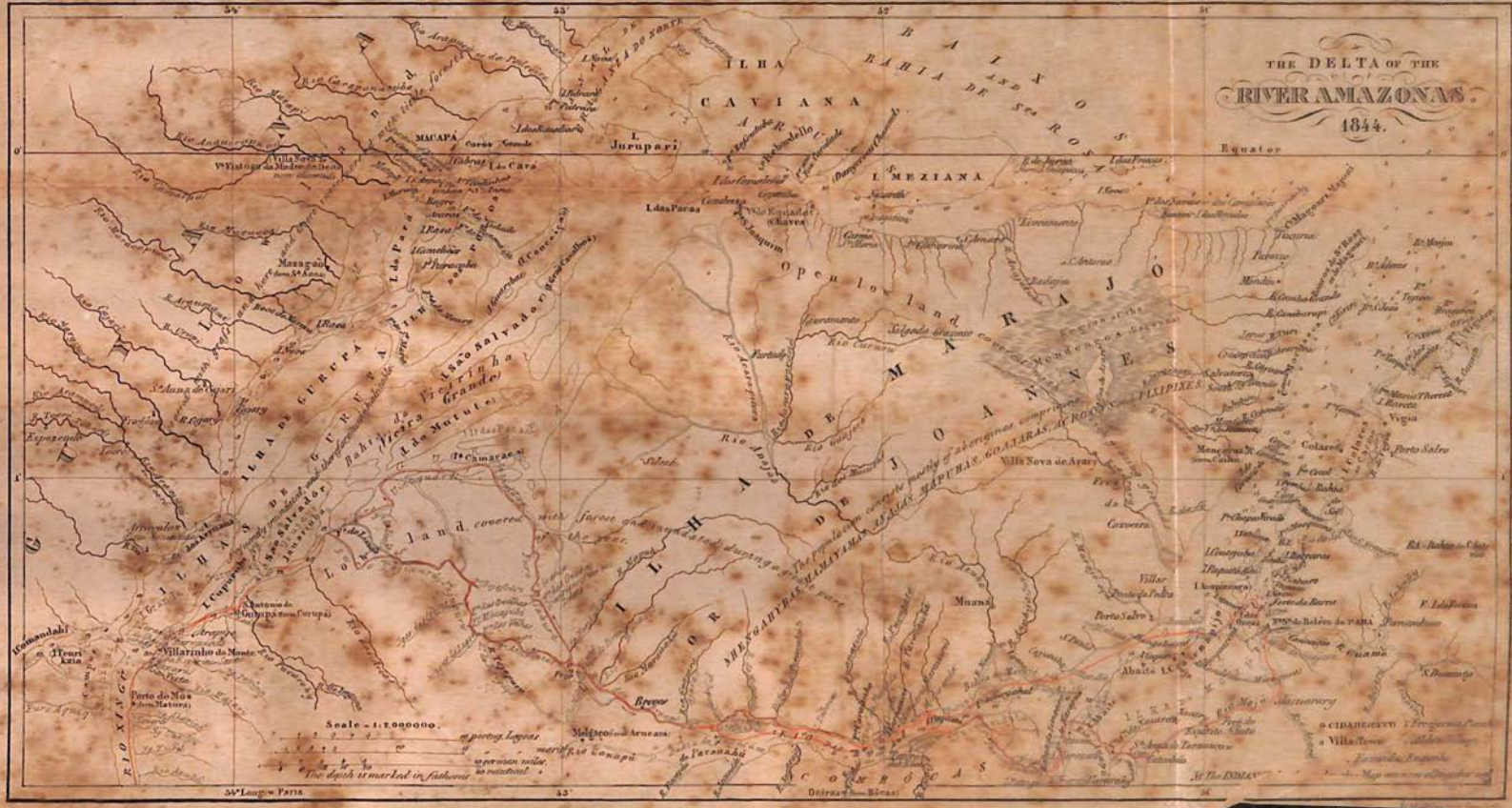
open space, with a church, close to which I saw the first fan-palms (Miriti, *Mauritia flexuosa*), and at a short distance commences the primæval forest. The town itself is not well kept up; most of the houses are of good stone masonry, and the palace of the President—the same which Pombal intended as the residence of a Portuguese prince—is the chief building; but the grass growing in the streets detracts from the appearance of a great and thriving city.

We now turn to the river, the dark yellow, almost red, colour of which resembles that of the Maine: its tide, one while forced back by the ocean, and at another urged onward by the united waters of the Amazon and Tocantins, the Mojú and the Guamá, flows along, five thousand paces in width, between the wooded Ilha das Onças and the boundless forests of the main-land. Water and forest extend as far as the eye can reach; even the small islands scattered across the river in the direction of the ocean are covered with wood, only admitting here and there an open view of the horizon. It seems as if a small space had been with difficulty reclaimed from the surrounding vegetation between the river and forest, on which is wedged in the capital of an immense province. To a traveller coming from Rio, this flat country must have a monotonous air, nor would the city of Pará probably produce any great impression; although seen from the river, with the magnificent forest in the background, it has a stately appearance. The numerous boats lying along the banks of the river, filled with half-naked Indians, present a curious picture,

especially to a spectator acquainted with the south of Brazil; on entering the city he will observe an almost entire absence of negroes and mulattoes, but instead, a brown native population, with numerous mixed races, among whom the Indian type is predominant. This observation occurred to me even when looking at the troops, who on the day when I returned the President's visit, formed in line from the bank of the river to the palace. This race, which has an admixture of Indian blood, is generally speaking well-formed, and I noticed particularly some handsome women among them.

During our stay at Pará there were few merchantmen lying in the harbour; but, beside the 'Growler,' several men-of-war were anchored in the roadstead, and among others the Brazilian brig 'Brasileiro,' and the French corvette 'La Bergère,' Captain Blanc, with the gun-brig 'La Boulonnaise,' commanded by Lieutenant (now Captain) Tardy de Montravel. The latter officer afterwards presented to me his beautiful chart of the Amazon, which he executed during a sojourn of three years on that river, navigating with his brig as high up as the bar of the Rio Negro. This survey has formed the basis of the accompanying map of the Pará and its ramifications with the Amazon.

We now made our preparations for a voyage up the river, which was to occupy a month or at most six weeks, and I purposed to extend it to the Xingú. I had fixed this limit for the excursion, wishing to reach Bahia at the same time as the 'San Michele' on her return from the Plata, as that ship was to convey us back to


THE DELTA OF THE
RIVER AMAZONAS.
1844.
Equator
ILHA
CAVIANA
BAIXOS
BAHIA DE STA ROSA
I. MEZIANA
Open low land.
MARAJÓ
ILHAS DE JOANNES
ILHAS DE GURUPA
Low land covered with forest
Scale 1:2000000
Sea Leagues
Statute miles
Nautical miles
The depth is marked in fathoms
MACAPÁ
Villa Nova
Villa Viçosa
Mazagão
Villa Vistosa da Madre de Deos
Villa Franca
Villa Salvador
Villa Chaves
Villa Nova de Arary
Villarinho do Monte
Porto do Moz
Melgaço
Breves
Muaná
Portel
Porto Salvo
Abaité
Colares
Cidade de Belém do Pará
Villa Nova
Rio Amazonas
Rio Para
Rio Jauapery
Rio Jary
Rio Xingu
Rio Tocantins
Rio Anajas
Rio Arary
Rio Camará
Rio Canaticú
Rio Cajuuna
Rio Curuá
Rio Paracauary
Rio Arapiuns
Rio Tapajos
Rio Maecuru
Rio Jamundá
Rio Nhamundá
Rio Trombetas
Rio Curuá
Rio Cuminá
Rio Mapuá
Rio Anabi
Rio Acará
Rio Guamá
Rio Moju
Rio Tocantins
Rio Arapiranga
Rio Igarapé Miry
Rio Igarapé Assú
Rio Igarapé Mocajuba
Rio Igarapé Cametá
Rio Igarapé Tocantins
Rio Igarapé Baião
Rio Igarapé Tucuruy
Rio Igarapé Arumateua
Rio Igarapé Jacundá
Rio Igarapé Itacayuna
Rio Igarapé Tapirapé
Rio Igarapé Araguaya
Rio Igarapé Xingu
Rio Igarapé Tapajos
Rio Igarapé Amazonas
Rio Igarapé Para
Rio Igarapé Jauapery
Rio Igarapé Jary
Rio Igarapé Xingu
Rio Igarapé Tocantins
Rio Igarapé Anajas
Rio Igarapé Arary
Rio Igarapé Camará
Rio Igarapé Canaticú
Rio Igarapé Cajuuna
Rio Igarapé Curuá
Rio Igarapé Paracauary
Rio Igarapé Arapiuns
Rio Igarapé Tapajos
Rio Igarapé Maecuru
Rio Igarapé Jamundá
Rio Igarapé Nhamundá
Rio Igarapé Trombetas
Rio Igarapé Curuá
Rio Igarapé Cuminá
Rio Igarapé Mapuá
Rio Igarapé Anabi
Rio Igarapé Acará
Rio Igarapé Guamá
Rio Igarapé Moju
Rio Igarapé Tocantins
Rio Igarapé

Europe. I was strongly advised in Pará to make this excursion to the Xingú, in the first place because this river was one of the least known of the great tributaries of the Amazon, and secondly as it was probable that we should meet on its banks tribes of wild Indians,—the Jurúnas and Taconhapéz; whereas, in the time at our disposal, we could at the utmost only navigate the main river to Santarem at the mouth of the Tapajós, and such an encounter seemed unlikely on that stream, as the natives have withdrawn to a considerable distance into the interior. The fevers which prevailed at this time on the banks of the Tocantins made an excursion up that river out of the question, though the distance was much less.

Under the active and judicious superintendence of Count Oriolla, the preparations for our voyage were made in the short space of eight days. The authorities obligingly rendered us every assistance, and gave us letters to the official persons in the various places where we intended to halt; they particularly recommended us to visit the priest at Souzel, Padre Torquato Antonio de Souza, to whom they gave us an introduction, as a man who would be of the greatest assistance to us in our visits to the savages.

NOVEMBER 22nd.—The evening appointed for our departure arrived. We now invite the Reader to accompany us on board the 'Growler,' if indeed he has made up his

mind to join our little expedition, or to prosecute our narrative, tedious as it may be, still further. At all events we trust he will excuse the digression we have made, in the hope that he might be interested in having presented to him, before entering this king of rivers, a brief sketch of its course, its immense plains, and the mountains in which it has its sources; this made it necessary to review the great features of the continent traversed by the Marañon nearly throughout its entire breadth. We have concluded our sketch with a short glance at the history of these regions, partly to excite the interest of others in the country, and partly to supply the place of scientific information, in the journal of a voyage undertaken from motives of recreation. We hope that this geographico-historical sketch, with all its imperfections, may not have fatigued the reader so much as to deter him from proceeding with us on our voyage. Courteous Reader, will you accompany us?—remember only that a weary waste of water and forest are before us—you know what to expect—you do not hesitate?—be it so then.

The 'Growler' is anchored at a distance from all the other ships, in the middle of the orange-coloured stream, and beside her lies the open boat, roofed-in only at the stern with palm-leaves, which is to convey us up the river. The imperial Naval Arsenal had placed this large boat at our disposal: it is called an "Igarité*,"—a vessel peculiar to these rivers, and specially constructed for the

* A word probably formed of *ygára*, a canoe, and *eté*, true, great.

navigation of the Amazon. The large, heavy hull of the 'Growler' lies motionless upon the water, while the mast of the Igarité swings incessantly to and fro like an inverted pendulum. The "red-coat" meanwhile paces the deck of the steamer, shouldering his musket, and from time to time stepping to the gangway from curiosity, where some people are busily running up and down the steps, conveying our scanty baggage by a smaller boat on board our river craft. The work is at length finished, and Dr. Lippold's heavy boxes are safely deposited; they occupy, it is true, a large share of the room in our little bark, but at the same time this gives an honourable proof of the space we concede to science in our expedition.

The glowing sun now sank behind stream and forest, and the blue ensign was lowered on the flagstaff of the British cruizer. Our crew, consisting of eight sailors from the 'Brasileiro,' came on board the 'Growler,' and ranged themselves with their bags along the quarter-deck. The Igarité was now brought to the steps of the steamer. At the stern of this ark, which was to be our floating habitation, rocking to and fro on the brown waves of the Pará, stood, rudder in hand, our pilot, Jozé Coelho de Albuquerque, a Portuguese, with a brown complexion, who resided on the banks of the Xingú: by his side was an Indian from that river, whom he had brought to assist him. Captain Buckle accompanied us to the boat, to see that we were comfortably settled, and then bidding us a cordial farewell returned to the steamer. We pushed off,—the 'Growler' quickly manned

her waists, and gave us three hearty cheers, which we as heartily returned. A moment after we were enveloped in darkness.

We now attempted to round the north point of the Ilha das Onças, which lies opposite to Pará. At first the ebb-tide carried us down the stream, and the sea-breeze being contrary, the waves ran high: owing likewise to bad stowage, the boat had a lift forward, and the rudder would hardly act. For a long time the lights in Pará appeared to swim on the surface of the stream astern, until the tide bore us toward the island, and under the shades of the dark forest. Our men toiled on with their short Indian paddles for several hours, when at length we saw a light a-head, and the Furo (channel) da Ilha das Onças on the north point of the island came in sight: the light, we were told, proceeded from a fazenda upon the island of Arapiranga—Uarapiranga, Guarapiranga*. We steered in this direction, leaving on our larboard side the Ilha das Onças, from which a bank extends into the channel, and having the little island of "do Fortim" on our starboard. The short passage was quickly made, and we then turned to the south-west into the long channel between the Ilha das Onças and Arapiranga, which is about three thousand paces broad†.

The sea-breeze was now in our favour, and we set the lug-sail. The moon rose above the woods of the Ilha

* This name is probably derived from the red (*piranga*) Ibis (*Guara*).

† According to Montravel's chart its breadth is 3500 paces.

das Onças, and being in still water we began to make ourselves comfortable and enter into conversation. The pilot took his part, and related to us tales of the forest and of jaguars, which raised our curiosity to the utmost. We soon afterwards observed on our right the entrance to the channel of Barquaréna, between Arapiranga and the large island of Mojú; the width of this channel I estimated at from four to six hundred paces. We entered it, and the stream soon after seemed to form a bifurcation; but on reaching a point where it turns sharply to the right and takes the name of Aroizal, we found that what appeared to be a second branch of the fork was a bay stretching far inland.

I had unconsciously fallen asleep, but awakened suddenly, just as the men were rowing with all their might: the moon shone brightly, and I saw that they were pulling straight across the channel. "What is the matter?" I enquired, and was answered with a laconic "Hum bixo!"—this, which I did not understand, signifies "a worm,"—an expression applied by the common people to any kind of animal. I repeated my question, and the pilot told me that a jaguar had just crossed the river, and reached the bank only a short distance a-head of us. We were all instantly on the look-out, but it was too late, and we consoled ourselves with the idea that the supposed wild-beast might after all have existed only in the imagination of the men.

The Aroizal is from two to three hundred paces broad, but it must be recollected that this estimate was made by moonlight. Here and there among the trees on the

banks we discerned the dark figures of palms. At two o'clock A.M. the Igarité was fastened up to a tree on the wooded bank of the river.

November 23rd.—At daybreak this morning we found ourselves near the point where the Aroizal flows into the Pará. The banks of the channel struck us particularly, from their peculiar and novel aspect. A thick and almost impenetrable forest of fan-palms, skirted by a broad margin of the large-leaved, tree-like *Caladium arborescens*, extended along the shores, and was reflected in the smooth, still waters of the river: but at spots where this belt of Caladiums was interrupted, we observed a tangled mass of colossal roots, undermined by the water.

At six o'clock A.M. we again hoisted sail, and soon after issued from the broad mouth of the channel into the gigantic Pará, which we traversed in a W.S.W. direction. On the north-east we observed the long, straight line of the sea-horizon; to our left stretched the seemingly boundless, greyish-blue forest of the large island of Mojú (Carnapijo), while the flat coast of Marajó on our right gradually assumed a livelier green, as we approached its wooded banks. Before us, on our larboard, lay the low island of Abaïté*, in the middle of the brown-coloured stream, which also seemed to open in this direction toward an ocean. Two small schooners and a canoe alone enlivened the view over this great

* Probably the same island which is named by M. de Montravel, and likewise in several charts, "Capim," lying opposite the flourishing village of Abaïté, on the coast between the Tocantins, Mojú, and Iguará. See 'Diccionario Geographico,' Tomo i. page 1.

expanse of waters,—here about two (eight Engl.) miles in breadth. Near the mouth of the Aroizal black rocks rose distinctly above the surface of the river, and it appeared to us as if similar ledges stretched almost across the whole width of the Pará above the point where we entered it; this appearance, we afterwards found, was merely caused by the shadow of a dark cloud on the surface of the water.

At eight o'clock A.M. a fresh sea-breeze set in, and we sailed rapidly before it. Half an hour later I took the following bearings: Abaïté S.W., Cape Bacabal on Marajó (lying, the pilot told us, in about the same latitude as Pará) N.W., the entrance to the Aroizal E. I may here mention that most of the names which occur in this part of my Journal are derived from the accounts given by the pilot or the natives, and their accuracy therefore may perhaps be doubtful: it is the more necessary to make this remark, as I find many of these names, and even whole islands and groups of islands, omitted on the maps in my possession. I ascertained the bearings with a good English boat-compass, without making any correction for the variation of the needle; this however is of little importance, as, according to Captain Montravel's chart, it amounts to only 0° 16′ 5″ east at Pará; increasing gradually as it advances westward, it may amount to 1½° east at the mouth of the Xingú. I must also observe, that in the description of the channels which connect the Pará and the Amazon, I have noted their direction according to the course of our boat, and not according to that of their current. The latter prevented

the use of a log, so that in laying down our courses in the accompanying maps, when it proved impossible to obtain correct information from Montravel's survey, we could merely estimate the length of each course by the time it had taken to accomplish it. Hence the uncertainty of my statements is obvious, especially as they could not be checked by astronomical observations, my chronometer and sextant having been left on board the 'San Michele' and the 'Growler,' in order not to expose these instruments to the casualities of such a voyage.

Our course, which was directed W.S.W., brought us gradually so close to Marajó that we could clearly distinguish the beautiful primæval woods, with their fan-palms and alternating sand and black rocks along the shore. At eleven o'clock A.M. we passed a point at a distance of about five hundred paces, which Albuquerque named Malatta, and the following bearings will give our position at noon: West point of Abaïté S.S.W., east point of that island E.S.E., Cape Mandii on Marajó W.S.W.

We now came to an interesting part of our first day's voyage—the dinner—for which a good appetite had long prepared us. The two servants had been left behind at Pará, and not wishing to disturb the sailors at their work or meals, our little party were left to cook for themselves. One of my companions had the kindness to relieve me of this task, when it came to my turn, and thus afford me time to sketch during the halt we made at these important epochs. The Igarité however continued under sail all this day. Count Oriolla, who had

already given us a high opinion of his culinary skill in the preparation of some excellent coffee, now seized the ladle, after all the preparations had been made in spite of the rocking of the boat, and placed or rather balanced himself against a barrel filled with sand that served as our hearth: upon this barrel stood a little tripod, supporting a saucepan full of rice which was steaming over the blazing fire. Our patience was at length on the point of being rewarded,—the saucepan was taken from the fire,—we stood devouring with our eyes its savoury contents—we tasted the rice—it was as salt as brine, and moreover burnt! There was an end to all our mirth—we stood sad and silent, until our preceptor in the culinary art, Dr. Lippold, happily relieved us from this cruel embarrassment, and, with a skill which he had acquired in the domestic circles of the Botocudo cannibals*, served up a second edition with the most admirable success.

C'est le premier pas qui coûte,—who would have thought, after this decided failure, that Count Oriolla would one day display such prowess in this noble art on the Himalaya mountains, when three years later he accompanied my brother on his travels! Count Bismark too, favoured by great natural talents, acquired a masterly skill in cooking; while Mr. Theremin, although strong in theory and deep critical judgement, was less happy in

* Dr. Lippold embarked in the first steamer of the Rio Doce Company, which was wrecked in that river: he reached the Botocudos in the neighbourhood of Linhares, with whom he staid six months, before he could return to Rio de Janeiro.

his practical application of this knowledge, being sometimes perfectly successful and at others quite the reverse, although in all minor details his manipulation always bespoke the reflecting artist. Art is a wide theme,—my culinary skill may be summed up in a word: Lippold's genius conceived the combinations and determined the proportions of the ingredients—I—stirred the ladle.

Having thus spoken in detail of the chemical preparation of our raw materials, the reader may wish to know of what these consisted, stowed in the bottom of the boat in casks or tin canisters,—in a word the stores of the Igarité. We had provisions for a voyage of four weeks, consisting of rice, feijões (black beans), sugar, chocolate, coffee, tea, biscuits, salt, hams, Dutch cheese, butter, vinegar, oil and wine. There were also, for the men, farinha, pirarucu (dried fish, which in the province of Pará supplies the place of the *carne seca* or dried meat), honey, melaço and caxaça. We had plenty of fuel, wood and coals, with all the requisite kitchen utensils; and, to be prepared in case of need, there was a tin canister full of medicines.

For our accommodation the Igarité had been provided with a roof of palm-leaves, about four feet and a half high, covering the aft part of the boat, and a smaller one forward, under which the crew could keep their things dry, and the grapnel and cable were stowed. The roof aft did not extend over the stern, so that the pilot and his assistant could look over it when standing at the helm. Under the roof were placed benches in a square,

as in a man-of-war's boats; and these were so broad that we could comfortably sleep upon them. Three of us were generally stretched on these seats during the night, while the two others lay on the esteiras, or straw mats, at the bottom of the boat: the fourth cross-bench served also as a dinner-table. Our own baggage, arms, and *redes*, or net-like hammocks, for sleeping in the forests, took little space,—in fact, there was little to spare for them, as our boat could hardly accommodate the fifteen persons on board of her. The stores above enumerated were stowed upon and under the benches; the guns were fixed beneath the roof; while our ammunition, carefully protected, together with the plates, cups and saucers, knives and forks, and some bottles of Seltzer-water (a present from Captain Buckle), were put under the floor. The space between the palm-roofs, fore and aft, was occupied by four benches for rowers, two sitting on each bench, and facing the bow of the boat, as instead of oars they used pagaies, or paddles, in the Indian fashion. The Igarité had also a short mast, fixed into the foremost bench and rigged with a lug-sail: it had no keel, and the bow and stern were flat. I now return to the account of our voyage, starting from the moment when dinner was ended, and everything cleared, cleaned, and stowed away with the most scrupulous order.

An idea may be formed of the thinness of the population along the banks of this river, from the fact that, during our voyage all this morning until noon, we saw only two dwellings upon Marajó; although some smoke rising occasionally from the forest on each bank of the

Pará led us to infer the neighbourhood of man. The second of these huts stood near a creek, before the mouth of which were two small, green islands, picturesquely covered with palms. We soon afterwards observed on our larboard the mouth of the Tocantins, to all appearance a boundless expanse of water.

I now found the bearings of the middle of the mouth of the Tocantins to be S. and its eastern bank S.S.E. At three P.M. we crossed the short channel between Marajó and the island of Goyabal, and in an hour's time were close to the shore of Marajó (Ilha de Joannes), in the midst of a group of little palm-islands, which, though not marked on my maps, are already in part laid down in the new survey by M. de Montravel*. They are situated in a bay of the last-named island, which lies N.W. of the mouth of the Tocantins: the bay, according to our pilot, is called Bahia do Marajó†. It was a glorious evening as we steered between these islands, on one of which we observed, in passing, a remarkable picture. A tall old Indian, with long white hair, was standing naked in front of his hut, which was scarcely distinguishable in the thicket of fan-palms. At his feet, in a small bay margined by Caladiums, lay a canoe, which a boy, also naked, was apparently making ready for him. Perfect solitude and silence reigned around.

* I took the following bearings, though not with great accuracy. The eastern point of the Tocantins S.E., the island of Conceição S.; the group of small islands, No. 1. S.S.E. (one German mile from Goyabal), No. 2. S.S.W., No. 3. S.W., and No. 4. W. by S.

† See Spix and Martius' Travels, part iii., page 987.

An instant more, and the picture disappeared behind a group of palms.

We now shaped our course toward the middle of the Pará, and sailed during the rest of the evening along an island on our starboard, named Tucupí, the other isles of this lovely archipelago lying on our left. Magnificent palm-trees, charming little bays, a miserable-looking house, an Indian hut, a few dark-coloured men, a canoe with some naked Indians, flocks of parrots flying high in the air, their screaming noise mingled with the howling of the Guaribas (howling monkeys), and occasionally Botos (porpoises), rolling over and over in the muddy water,—such were the various objects which caught our attention this evening. The charm of the scenes through which we passed was considerably enhanced, when the moon rose, and shed her silvery light over the tropical landscape. Our German songs resounded far and wide over the waters of the Pará, until late into the night: at length my companions, yielding to the influence of Morpheus, stretched themselves on their hard couches, whilst our crew continued to paddle us swiftly along, conversing in a loud tone of jaguars and jacarés (alligators). It was between ten and eleven o'clock when we fastened the boat up to the bushes on the bank, to await the flood-tide*.

* The following were our meteorogical observations in the course of the day:—At nine o'clock A.M.: air 22°,3 R. (82°,2 F.), the water in the river 23° R. (83°,7 F.) At noon: air 23°,4 R. (84°,6 F.), water 23°,2 R. (84°,2 F.): at 6½ P.M. air 23°,5 R. (84°,9 F.), water 23°,5 R. (84°,9 F.)

November 24th.—At four o'clock A.M. we set sail, and soon after doubled the south point of Tucupí. We thus found ourselves for a short time on the main stream of the Pará, but only for a short time; before us lay the small Ilha Paquetá, which we soon passed. The islands were today more numerous: since yesterday afternoon we had entered the labyrinth of them, large and small, which the stream of the Pará seems to have detached from the flat, marshy shore of Marajó: at certain periods some are entirely inundated, others partially. They continually impeded the view not a little, often altogether concealing the broad river, and seldom allowing an open inland view of Marajó.

The glorious moonlight night was gradually succeeded by the early dawn, when at six o'clock we found that the west point of the Ilha da Conceição bore S. by E., the west point of an island behind it S. by W., and a small island in the middle of the Pará S.W. by S. I must observe that the pilot gave at first the name of Ilha da Conceição to the two islands in the first line on the west side of the principal mouth of the Tocantins, which seen at a distance appear to form one island. We discovered the mistake on our return voyage, and learned that the western of these two islands alone bears that name; the other, situated between it and the Tocantins is called Tucumaiduba.

We soon afterwards reached Assuranda, a small fazenda in Marajó. Four houses, shaded by cocoa-nut palms lie on the flat bank of the river; in the background is a magnificent virgin forest, consisting chiefly

of gigantic trees, whose tall trunks and diversified tops, rising one above another, formed a great contrast to the forests of low fan-palms we had seen yesterday. The rounded crowns of the Miriti (fan-palms) generally stand so close together that the outline of the tops of such a forest forms nearly a straight line. Most of the other trees are easily distinguishable at night, but the bushy fan-palm has the appearance of a leafy tree.

Beside Assuranda, we saw a second establishment on Marajó, the fazenda of an Englishman, which I think the pilot called Maruari. In front of this was anchored a large schooner, with a full cargo of cattle. These vessels are occasionally met with on the Amazon, and are called "Gabarra" or "Batelão de Gado." They mostly get their cargoes at Marajó, which is rich in herds, and transport them to the "Cidade," where the cattle are generally landed in the most miserable plight, as I noticed in my first walk through that city.

According to the latest accounts Marajó possesses about twenty thousand head of cattle: these, together with the rice that is cultivated on the nearly flat and marshy land, form the chief articles of export. The soil of this large island, which is most conveniently situated for commerce, is adapted for the cultivation of any tropical produce. If Marajó had a larger population and the culture were improved, it might become of the greatest importance to the empire, and form the chief mart of the interior, with which it is directly connected by that noble high-road of commerce the Amazon river.

When Antonio de Souza Macedo, Baron de Joannes, was invested with Marajó, (which was formerly called after him Ilha de Joannes), he found it inhabited by the Tupinambas, an Indian tribe famed as excellent boatmen, who were subsequently converted by the Jesuits. After the expulsion of the Dutch the island reverted to the crown. During the revolution in 1835, it was plundered by the insurgents under Vinagre, and afterwards by the troops of the Government.

Marajó is said to possess all the various kinds of animals found in the province of Pará: we were especially interested by hearing that the numerous herds of cattle on the Campos in its northern part, attract more jaguars than are found in the country round about, and that the lagoons in the centre of the island are said to abound in alligators. Unfortunately we had not time to make a stay here of a week or fortnight, which would have been required for any successful hunting-excursion. These reports of the existence of such numbers of wild-beasts may or may not be true, but I will only observe that, neither in our voyage up the stream, nor on our return, did we see a single alligator in these waters, nor any trace of jaguars on the shores of the large island along which we sailed for several days as far as the northern main branch of the Amazon.

Let us now return to the Igarité. About noon we were again in the open stream, and, passing the meridian of the small town of Oeiras, were nearly opposite the mouth of the Jacundaz, one of the tributaries of the Pará which joins that river on the right bank, and ac-

cording to the pilot, lies S.W. by S. We had hitherto seen nothing but islands on the right bank of the river; but now for the first time we descried the main-land, in the direction of the mouth of the Jacundaz. At two o'clock P.M. we passed the embouchure of the Periha, a small stream in Marajó, and the somewhat broader Furo Santa Isabel, which here flow together into the Pará.

The Ilha de Santa Isabel, lying before this double embouchure, may, with respect to the gradations of vegetation, be taken as the type of all the islands that have been separated from the main-land on the south coast of Marajó, many of which we saw in our voyage today. The island is bordered by Caladiums, which, springing from the water, rise with a gentle arch up to the middle of the palms, that form the second range, and partially cover their white stems. This large terrace consists of closely compacted fan-palms, whose crowns likewise form a kind of undulating roof, rising toward the land; the small stems of the *Corypha umbraculifera* (Linn.) standing in the foreground, overtopped by the taller *Corypha elata* (Roxb.). Among both species is seen the graceful Assai-palm (*Euterpe oleracea*)* waving to and fro its airy crown of finely pinnated fronds, supported on a slender bamboo-like stem. In a third line, rises majestically the summits of the lofty forest-trees, crowning the whole with their true Brazilian roofs of rich foliage or vaulted tops,—red creepers, of a magnificent colour

* According to the drawing by Spix: see his 'Atlas zur Reise in Brasilien:' Tab. I. 'Pflanzenformen des Tropischen Amerika,' No. III.

that we had not before seen, here and there climbing up their huge trunks. Occasionally too the rounded top of a gigantic fan-palm appears above the other trees, formed of hundreds of green fans, all springing from a central point and radiating upwards, overshading the immense red-brown bunch of fruit, which depends from the vigorous but slender stem, intermingled with a few yellow, withered fans. In some islands, where the soil is perhaps not sufficiently elevated above the water, there is an entire absence of the higher line of forest-trees; and as the vegetation consists only of a grove of palms, bordered by Caladiums, these islands have frequently been called the Palm-islands. The nature and fertility of the soil are in general readily indicated in these regions of the delta of the Amazon by the plants on the banks and islands, which likewise show whether or no the country is exposed to inundations. Tall forest-trees bespeak a firm soil: thickets of palms and the Caladium indicate a flat, marshy land subject to frequent floods.

This was to me a memorable day,—I made my first essay at washing my own linen; and being obliged to perform this operation outside the palm-roof, I received a *coup de soleil* both upon my arms and back.

Toward evening we observed the trunks of two gigantic trees in the middle of the river, stretching their withered branches high into the air: they appeared to have stuck on a sand-bank in their course down the stream, and formed quite as dangerous an obstruction to navigation as the wrecks of the Turco-Egyptian fleet at the extremity of the bay of Navarino, or the frag-

ments of the 'Hellas' which was blown up in the harbour of Poros. Another large trunk, floating down the river, was covered with birds, sitting upon it in a long row,—a sight which instantly roused our sporting propensities, and allured us out of our course, but we vainly endeavoured to approach them. What would we have given to have been so fortunate as the two celebrated Bavarian travellers*, who met with a jaguar and an alligator upon a similar floating tree!

If not gratified by the marvellous, our attention was caught by objects which raised our curiosity. From the centre of a fan-palm we saw what appeared to be smoke rising: after observing it attentively through the telescope, we at length discovered that the appearance arose from a swarm of gyrating insects,—a phenomenon which might be witnessed without crossing the equator or navigating the Amazon! Flocks of parrots were flying from one island to another, and large quantities of an aquatic plant, which Dr. Lippold called Pontederia, floated past us on the muddy stream.

The sun was now sinking in the ocean-like Rio das Bocas, as the Pará is called at its junction with the Uanapú, Pacajaz, and Jacundaz†. Three channels lay before us, all of which, according to our pilot, led to Melgaço, which he asserted, in contradiction to my charts, lay on the main-land. I vainly tried to reconcile these conflicting authorities. It was a bright starlight night, as we entered the most northern of these three

* See Spix and Martius' Travels, vol. 3, page 1012.

† See above, page 131.

passages, the Rio dos Breves: it disembogues at the north-west corner of the great basin called the Bahia de Tapará, into which the Anapú flows near its south-west corner. We continued our course through this channel W. by N. until about one o'clock A.M., when the setting-in of the ebb-tide obliged us to fasten our boat to a large tree (a Bombax, I think) on the left bank*.

November 25th.—We quitted our boat early this morning, to ramble through the adjacent forest, and shot two black- and yellow-feathered "Japús," which we took with us on board, to be cooked for dinner. We then continued our ascent for a short distance to Breves, situated on a projection upon the muddy, clay bank of Marajó, from six to ten feet above the river. A few banana-trees are interspersed with the two short rows of houses which form this little place, and the primæval forest rises behind it. The houses in this street near the river-side stand partly on piles, rising at low-water from three to five feet above the ground: their walls are constructed either of the split trunks of palm-trees, or of a kind of frame, consisting of poles interlaced with the petioles of palms, the leaves of which form the roof. In the openings that serve as windows are fixed trellis-like, reed mats, instead of glass, which reminded me of the lattice-windows of an Eastern harem. Inside these huts—for the term *house* might convey a false notion of such lowly dwellings—is generally seen a large table, made of reeds, and occupying nearly the whole

* Temperature: at eight o'clock A.M., air 22°,1 (81°,7 F.), water 23°,5 (84°,9 F): at noon, air 24°,5 (87°,1 F.), water 23°,8 (85°,5 F.).

of the apartment; but during an inundation this forms a kind of second floor, standing above the reach of the rising water. Nevertheless the situation of Breves is healthy, and its inhabitants, who are mostly of Indian descent, often attain an advanced age. This place forms the central point for the commerce of Pará with Portel, Melgaço, and the main stream.

The good people here seem to pass an easy life, as we might infer from the little cultivation in the neighbourhood: they appear to spend most of their time in their hammocks, or *redes*, similar to those of the Puris. The various utensils in their dwellings have also an Indian look. Some beautiful red macaw feathers caught my eye,—we had not seen any trace of these splendid birds since leaving the forests of Aldea da Pedra. The authorities of Breves, which contains from twenty to thirty dwellings, are the Juiz de Paz, a very friendly man who gave us a present of provisions, and a kind of Commandant: these officers, apparently the only inhabitants possessing any degree of education, remind one of the better times that Breves is said to have seen, before the last destructive revolution took place.

At eight o'clock A.M. we pushed off, and continued our voyage on the Rio dos Breves north-west by north, having Marajó on our right and several islands belonging to the district of Melgaço on our left. The forests on the banks of the channel, which is here from two to four hundred paces wide, resemble the primæval forests on the Parahyba do Sul: we were also charmed at seeing again the same beautiful creepers as yesterday, which,

Dr. Lippold thinks, are probably allied to the *Euphorbiaceæ*. Here and there we noticed on the wooded banks a solitary house, nearly concealed from sight by the tall, handsome, white-flowering Caladiums. The course of the river soon after changed for a short time to N. by W. We now came to a lovely, narrow island, along which we sailed for several hours: I was tempted to name it the Assai- and Ubussú-island, from the quantities of these magnificent palms growing on it, only interspersed with a few lofty fan-palms of different kinds: but the masses of innumerable creeping and climbing plants, which interlace the leafy tops of the forest-trees, seemed to outvie even the palms in luxuriance, and deprive the spot of the title of a palm-island.

The Ubussú (Bossú) palms were new to us: their stem, short and thick, rises only from twenty to thirty feet high; from its top expand the large stalks of the leaves in a fan-like manner, like the sepals of a lily, bearing in place of fronds large, narrow-plaited or ribbed leaves, often twenty feet in length and five in breadth. From their weight these gigantic leaves bend outward more or less from their central point, or hang down, like those of the bananas, on the scaly trunk, broken and rent by the wind. The Assai form a pleasing contrast to the Ubussú palms: they resemble the shaft of a long lance, and bending forward from amidst the thicket are reflected in the waters of the stream, which have undermined the banks along the island, thus exposing the roots of the trees. Branches, and even trunks, stretch far over the river, and we observed a slender Assai-palm

actually twisted into a perfect ring. We cut down one of these palms, and, at the Doctor's suggestion, splitting the spire into slices, we made a salad of it with oil and vinegar, which we relished greatly. A second island succeeded, and then a third, in the middle of the Rio dos Breves, causing a bifurcation of the river. The channel to the right, which we entered, lay N.W. by N., and the one to the left W.

Soon after one o'clock we reached a large basin, surrounded by forest, and with a wooded island at its north end. At this point three channels, flowing from different directions, unite with the Rio dos Breves. We were here overtaken by the first real tropical shower during our river voyage, which considerably diluted Count Bismark's rice-porridge, seasoned with the gifts of the Juiz de Paz, and enriched by a fowl which we had purchased at Breves. The strong ebb-tide obliged us to cast anchor, and I took the following bearings: the Rio dos Breves traverses the basin in its former course from S.E. to N.W. by N.: the Rio dos Macacos flows into it from N. by E.: another channel flows from E., and the last from S.S.E. After dinner we continued our voyage, and at three o'clock P.M. came to another chief division of the river, forming an oblique cross, with a channel striking off to the left toward Melgaço, while another proceeds from the right, as the following bearings will explain more clearly: Rio dos Breves N.W. by W., Furo de Melgaço S.S.W., Ygarapé (Garapé)* between the Rio dos Macacos and Pordento N. by W.

* The general designation for a river or channel.

The primæval forest stretching along each bank now became thicker and higher, and numerous large Botos were seen rolling about, exhibiting their flesh-coloured backs. Soon after passing the last-mentioned confluence, we fastened up our boat to a tree in the island do Pordento, and landed, to enjoy a ramble through the thicket, cutting our way with our *façãos*, or large forest-knives. We remained on the island two hours, and were caught in a heavy shower of rain, from which I sought shelter under the gigantic leaves of a palm, surrounded by swarms of ants. At six o'clock we were again under weigh. The sailors pretended that they had seen monkeys on this island; but, notwithstanding our constant search, we had never seen one since our arrival in Brazil.

At half a nautical mile from the second of these chief branches of the river, we noticed a strip of marshy soil about a foot wide, the only clear land along the wooded banks: the Fazenda do Pordento, our pilot said, was not more than two minutes' walk from this spot; but Von Martius, in his map, places Pordento south of the Rio dos Macacos. There is a third branching off in the Rio dos Breves, at about two hours' sail from the second; and from this point the river takes the name of Jaburú, which it retains for a considerable distance. The Aturiazal, a channel flowing from the west, and which is connected by the Tagipurú with the Amazon river, here falls into the Jaburú or Rio dos Breves, which now flows in a north-west direction. In consequence of the strong contrary current, the pilot did not select this passage to the main stream. At nine o'clock we saw before us the

confluence of the small Nambuaçú, from the north-east, with the Jaburú: in the dark night it looked like one of the straight canals in Holland, from one to two hundred paces broad, the only difference being that its banks are margined with low bushes. I must here observe that, according to Albuquerque's statement, all the land which we saw on our right was islands belonging to Marajó. The pilot called my attention to the sound made by the alligators, which resembles that of a species of toad, the *Bufo calamita*. Our men amused themselves by imitating the cry of the Jacarés, in order to attract them to the boat: the creatures however kept at a distance, and we could not catch a glimpse of them in the dark.

Between one and two o'clock in the morning we reached the mouth of the Furo das Ovelhas, which flows from N.E. by N., where the Jaburú turns sharply to the west. Here we cast anchor: up to this point the flood-tide had been in our favour, but we now took advantage of the ebb: the fact was that we had reached the line, from which on one side the ebb-tide flows in the direction of the northern chief mouth of the Amazon, and on the other toward the southern efflux*.

November 26th.—At daybreak we were again under weigh. The Jaburú today formed a succession of bends like the movement of a snake. In the course of our voyage until nine o'clock A.M. it received two Ygarapés on its left bank. At that hour the flood began to set in,

* Temperature at noon: air, 23°,7 (85°,3 Fahr.), water 24° (86° Fahr.).

and obliged us to halt near the Ilha grande do Jaburú; we had previously however a grand wash of our linen, which was exposed to dry on the palm-roof in a scorching sun. The woods on this island are particularly rich in aërial roots, which grow frequently so high as to admit a person to walk under them easily: other roots projected from the trees in the form of triangular planks standing on their edge. The roots of a fan-palm were new to us, consisting of a bundle of numerous smooth and slender little rods, among which are often some of a bright red colour. On one of these palms I observed a root shooting off from the trunk at ten feet above the ground,—a curious spectacle. But the most characteristic of these aërial roots are those of the Rhizophora,—a sufficient proof of the luxuriant vegetation of this marshy Delta country, surpassing all that we had yet seen in Brazil. Everything here is on a colossal scale, and the richness of vegetable life is increased by the mountain-waters of the Andes, which annually inundate and fertilize the low-lands, and penetrate into the depths of the forests, whence these are called the "Ygapó-forests*." We saw, for instance, the slender Miriti, the tallest palm that is met with here, attaining a height of a hundred feet above the river; and gigantic trees, rich in foliage, with immense crowns, frequently rising a hundred and fifty feet above the moist ground, toward the lowering rain-clouds which the "vento geral" drives almost daily over these forests. Colossal as these trees are, their roots are equally so in proportion, especially those of

* *Ygapó* signifies an inundated country.

the Rhizophora, which project in high arches to perhaps fifty paces or more over the surface of the water, and together with the dark recesses in the river's bank, overshadowed with foliage, impart a pleasing variety to the silent expanse of these channels.

Being compelled to wait until noon for a favourable tide, we resolved to ramble over the island, and try to shoot something for our dinner; meanwhile the crew, stripping off all their clothes except a covering round their loins, and armed with knife and stick, hunted turtles and shellfish in pools and ditches, or amused themselves with angling. Most of these men were tall, well-formed Indians, with smooth, glossy, black hair, and teeth filed to a point. Their sense of locality and sharp sight astonished us, as well as the light and elastic step with which they passed noiselessly over the leaves and branches that covered the ground to the depth of a foot, whilst our heavy step made a loud crackling noise. They seldom used their façãos, an instrument indispensable to us in making our way through the forest, but glided along among the lianes and bushes with incredible adroitness and agility, slipping under the tall, arched palm-leaves, that shoot like mushrooms from the ground, and which, when we touched them in passing, sent down a shower of small brown ants upon our heads and necks, that stung us in a most disagreeable manner. The negro and the two mulattoes vied with the Indians in agility, which is particularly serviceable in the chase, in stealing upon the game. The negro was strong and well-built, and always in good

humour; the mulattoes were handsomer than those in the south of Brazil, and differed from the Indians only in the darker colour of their skin and woolly hair; they were of the same stature.

These coloured inmates of our little ark, following our example, rambled through the forest, or stood busy beside the blazing fire at which the Consul was preparing our dinner; or they stepped lightly over the bridge formed by some Rhizophora-roots from the shore to the Igarité; for it was only by the help of such aërial roots, or the prostrate trunk of a tree, that the land could be reached from the boat, as the margin of the river for many yards in width is covered with boughs and creepers, which extend over the water, but would give way underfoot. The usual solitude of this secluded and wooded island was thus animated, and the deathlike silence broken which prevails here in the middle of the day, contrasting with the loud noise of monkeys and birds that resounds here sometimes in the morning and always at night, or with the lugubrious, and monotonous nocturnal concert of toads, bull-frogs, and alligators.

At the appointed time we all returned on board the Igarité, one after another; Count Oriolla alone was missing. We shouted to him, fired our guns, despatched the men in all directions, and went ourselves in search of him. At length, toward evening, we discovered the straggler, on his way back to the Igarité. In the morning, at low water, he had crossed several canals and tracts of swampy ground, by wading and climbing over

the trunks and roots of prostrate trees: led on by the excitement of the chase, he had gone on and on, thoughtless of returning, and forgetting that the flood-tide would soon set in. When he at length bethought himself of making his way back to the boat, he found all the Ygarapés filled with water, and the natural bridges partly submerged and partly carried away. Being an excellent swimmer, he did not hesitate to plunge into the muddy stream, with clothes, weapons and all, and soon swam over the numerous channels which crossed his path. In this manner however the Count lost his way: he therefore resolved to remain where he was, in order not to increase the distance from his companions, and this was doubtless the best course he could adopt under circumstances; but undaunted by his embarrassed position, he set to work to spread his wet powder upon palm-leaves to dry, that he might let us know if possible whereabout he was by firing his fowling-piece; or, failing in this attempt, that he might procure food and provide for self-preservation. The Count was thus engaged when one of our men came up with him, and the reports of our guns had meanwhile acquainted him with the proximity of his companions. But all the difficulties were not yet overcome; Count Oriolla and his guide had still to swim over several canals, ere they reached the banks of the Jaburú. It was five o'clock in the afternoon before we left the island.

The Jaburú now turned westward, and about a thousand paces from thence N.W., following afterwards for a similar distance a N.N.E. direction, then for five hun-

dred paces E. by N., a thousand paces N., and ultimately N. by E. At nine o'clock P.M. we passed an Ygarapé, which joined the Jaburú from N.E by E., and in less than an hour a canal flowing from the same direction; from hence it took a N.N.W. course. At ten o'clock P.M. we tied up the Igarité to a tree, after a short day's voyage. There was much sheet-lightning during the evening.

November 27th.—We started again at four o'clock A.M. The Jaburú turned gradually W. by S., and was soon after joined by a channel from the E.N.E., and a quarter of an hour afterwards by two other Ygarapés from the left bank; from thence it flows E. by N. with a breadth of three to four hundred paces. A third Ygarapé joined it from the east, and it then turned N.W. by W. Numbers of splendid macaws flew screaming overhead, at which we fired in vain. At eight o'clock A.M. we reached the important point where the Jaburú flows into the Jabixava, an arm of the Amazon more than a thousand paces wide soon after leaving the main river. The Jabixava at first takes a southern, and afterwards a south-eastern direction, forming a great expanse toward the east: flowing thence to the junction of these rivers, it turns sharply eastward, and from that part seems to be not broader than the Jaburú. On reaching this large expanse of the Jabixava the sea-breeze carried us swiftly over to the western shore. The flood-tide meanwhile set in, and during the delay this occasioned we went on a hunting-excursion in a magnificent forest of giant-leaved Ubussú palms, which grew

luxuriantly on the marshy soil intersected with ditches. We remained here four hours. Counts Oriolla and Bismark came upon the track of a jaguar, and Count Bismark, to crown his good-luck, caught some delicate little fish, called Piranhas and Pirapitangas. Dr. Lippold regaled us with a turtle, roasted in its shell, after the cruel Indian fashion,—a process which had more than once before, on board the Igarité, half suffocated us by the intolerable smoke and stench emitted by the shell. We left the island at two o'clock P.M. and sailed N.W. up the Jabixava, along its east bank, the shore of the island of Marajó.

The primæval forest rises high on both sides of this broad sheet of water, its grand aspect occasionally diversified by tall, slender Assai-palms, bending gracefully over the stream from the colossal wall of forest-vegetation,—a chaos of creepers and climbers, among which those with splendid red and purple flowers predominate, clothing the gigantic trees (often a hundred feet high) from their tops to the ground, like bright coral ornaments. Never shall I forget that gorgeous display of colours, from which I could hardly withdraw my eyes, nor the charming picture which an Ygarapé flowing from the east, out of the deep shades of this magic forest, presented at its mouth, whilst it opened to us a glance into the recesses of these wonders of creation.

At five o'clock P.M. we saw ahead of us the two Ilhas das Pacas, and behind them a portion of the Amazon, —its southern arm, called the Rio de Gurupá, which

further down unites with the other great branch of the main river, the Rio de Macapá, forming the principal embouchure between Marajó and the coast of Brazilian Guiana*. The land which bounded the horizon behind these islands appeared to me the Ilha grande dos Porcos, as laid down in my French chart: I say *appeared*, because neither of the charts in my possession agreed, in the connecting channels between the Amazon and Pará, with my own observations. About sunset we reached the mouth of the Uituquara, flowing from the N.W., a southern branch of the Rio de Gurupá, which we now ascended. On our larboard rose a fine forest, and on our right a group of palms, which were protected by creepers from the encroachment of the waves. The width of this channel, where not interrupted with islands, is from three to five hundred paces: its direction afterwards changed to W. by S. ½ S., which it retained for some hours. According to Albuquerque's account, which was confirmed by our own observation, the Uituquara presents a remarkable phenomenon; like the Tagipurú (a river running nearly parallel to the Jaburú, which we visited on our return) it always ebbs and flows off toward the Jabixava.

The boat was lying still, whilst the crew were at supper; but during our tea, which was not served until we had again to contend against a contrary current, rain and darkness set in. With us at home, rain is generally most unwelcome on any excursion, but in these tropical regions it seemed to produce a very agreeable effect upon the

* See above, page 130.

crew, making them brisk and good-humoured: they instantly pulled off their shirts, to enjoy the refreshing coolness of the rain upon their backs, and set to work paddling with might and main, bantering jokes or accompanying the stroke of the paddles with their songs, which they improvised, and which, although the burden did not change, had a certain sweet and melancholy melody. At first only one sang, riming all the words that came into his thoughts: another would then take up the strain, and at the end of each strophe the chorus joined in. Soon after eight o'clock we passed a small Ygarapé, lying S.W., and at half-past nine P.M. the Igaritè was made fast to the left bank of the river*.

November 28th.—We resumed our voyage at half-past two A.M.; the stars were visible, but the moon was not bright. The course of the Uituquara soon changed from W. by S. to W., but at five o'clock resumed its former direction: at half-past six it lay S.W. by W., and at nine o'clock S.E. At daybreak my companions rose from their esteiras at the bottom of the boat, and most of them plunged into the tepid stream, in spite of alligators and such-like monsters, the presence of which we every day relegated more surely to the realms of fiction. After their bath, they climbed on board again by a rope ladder which Count Oriolla had manufactured. Then began the general toilet, which was followed by coffee, prepared in turn by the cook "du jour."

The business of this unlucky wight—which, as an

* Temperature, at sunrise, six o'clock A.M.—air 20°,1 (77°,2 F.), water 24° (86° F.).

exception, I had today taken upon myself—was manifold, but the rest of the party generally assisted him out of good-nature, in cleaning and putting in order the part of the Igarité we occupied (to which we made a point of giving an appearance of seamanlike neatness), in serving the dinner, and washing the plates and dishes in the river. The Doctor usually plucked the fowls and birds which we had shot, and made himself generally useful in the preparation of our meals; although his *Hortus siccus*, it must be owned, gave him ample occupation. Count Oriolla took upon himself the distribution of the biscuit (which only yielded to smart strokes of the hammer) and other provisions: he also mixed for us in a tin can a refreshing drink, of wine and water, which was in great requisition, as we were obliged to drink our Seltzer-water very sparingly.

For dinner today I cooked some parrots with rice, and in the evening stewed some bananas and made tea. We were commonly restricted to tea or chocolate, but a little culinary invention was not ill relished by the party, especially when it added an agreeable dish to the repast. The important duties of the individual "du jour" were concluded with lighting the lanthorn,—a "fighting lanthorn," which we had brought with us from the 'Growler.'

The rest of the party amused themselves during the day with reading, writing their journals, sketching, taking bearings, shooting, and exploring the country. We made it a rule to have at least one gun kept in readiness, morning and evening, when we had usually a chance

of shooting something. Today Count Bismark shot a "Japú," and a handsome woodpecker as large as a crow; we also saw many beautiful macaws, some blue with yellow under the wings, and others red with blue wings: they flew high over our heads, and always in pairs. The Guaríbas, contrary to their usual custom, began their loud howling at an early hour today in the woods on our left.

At twelve o'clock we reached a fork in the river, and pursued the Uituquara W.S.W.; a shorter channel branched off S. by W., and soon after joined the Limão: the latter forms the connection between our branch and the Tagipurú, which flows from the Amazon. At two o'clock P.M. we came to the point where the Limão itself branches off E.S.E,, while the Uituquara keeps its previous course. At half-past four there was a thunderstorm, but unaccompanied by rain; and shortly before sunset we passed a small Ygarapé on the right bank of the main stream, which was here from five to six hundred paces broad. In the evening the monkeys again broke out into their loud howling, whilst the setting sun diffused a golden and rosy tint over the river before us and the magnificent outline of the forest along its banks. At half-past eight o'clock the Uituquara turned S.W. by W., and shortly afterwards flowed into the Amazon. By the starlight we discerned ahead of us a dark island, which we kept on our right. The ebb-tide detained us for some time stationary in a narrow channel, so that we did not reach the embouchure of the Uituquara until a quarter to eleven; here we anchored, to await the flood. There lay

the Amazon before us in all its majesty!—in the direction of its mouth it had quite the appearance of an ocean.

November 29th.—The Southern Cross still shed its light on the cloudless sky, when at four o'clock A.M. we set sail, leaving our anchorage at the point of land which separates the Uituquara from the Tagipurú. Both these side-branches separate in the same bay of the Amazon from the Rio de Gurupá, which is here about a nautical mile broad and flows N.N.E. This bay is parted from the Rio de Macapá, or northern half of the mighty Amazon, by the group of the Ilhas de Gurupá. The Uituquara flows at first N.E. by E., and the Tagipurú runs E.S.E. As the day broke, the sky became clouded, and the sea-breeze, here called the "vento geral," set in. It is felt for a considerable distance up the Amazon, and may be regarded as a trade-wind which blows over the mainland: we almost flew before it. Behind us lay the straight line of the sea-horizon, and on each side wooded islands extended for miles; while in the far distance we observed the Ilha grande de Gurupá, which may be regarded as belonging to the group of islands that separate the two main channels of the river.

At seven o'clock A.M. the northern point of the island bore W. ½ S. looking down the stream; the point of land near the mouth of the Tagipurú N.E. by N.; the mainland behind it on the right bank of the Amazon, N.N.E. ¼ E.; and the opposite island of Urutaui, N.N.E. At half-past ten o'clock we had an open view between the south-west point of Urutaui, lying on our starboard quarter N.N.W., and the north point of the Ilha grande de

Gurupá, bearing N.W. by W.; through this passage, which was called Furo Mararú, the view extended over the expanse of the Rio de Gurupá, possibly as far as the Rio de Macapá. We soon after approached the right bank, and coasted along it with a fresh breeze. In passing the eye rested with pleasure on the fine forms of the trees in the adjacent forest, or followed the flight of the numberless water-birds,—many of them new to us,—especially the large white gulls called "Garce," or the white Egrettes and Divers, with flesh-coloured heads, with which the air and water seemed alive. Count Bismark shot a "Mergulho," (a bird between a goose and a duck), and Count Oriolla a large white bird of prey.

I was just loading my fowling-piece, when I observed an object on the white mud of the river, which gleamed in the sun's rays like a coil of silver: it was a serpent, basking in the sun. We rowed toward the spot, and Count Oriolla fired at it from a distance of thirty to forty paces: he missed it with the first barrel, but wounded it in the tail with the second, which was charged with large shot No. 2. This seemed to rouse the creature: our boat grounded almost at the same moment a little higher up than where the serpent lay, but some intervening bushes prevented our keeping it in sight. We all eagerly jumped into the river, followed by most of the crew; Counts Oriolla and Bismark were overboard in a minute, but as the real depth of the water seemed to me very problematical, I leaped quickly on to a withered branch of an enormous prostrate tree, which served as a bridge to the shore. Although I had little

hope of coming up with the serpent, I advanced as fast as I could along the slippery trunk,—a thing by no means easy, on account of my large India-rubber shoes, which the swollen state of my feet had obliged me to wear for some weeks past. Just then I heard the report of a gun on my left, and instantly jumping into the morass, warm from the sun's heat, sinking into it up to my knee at every step and leaving one of my shoes in the mud, I hastened in the direction of the sound. Count Oriolla, who was the first to leap out of the boat, ran to the spot where he had wounded the serpent, and caught a sight of the reptile as it was trying to escape into the forest. Suddenly it glided into the mud under the trunk of a prostrate tree, and at that instant the Count struck it with a cutlass, which however merely rased the skin: he then threw himself at full length upon the creature, as it was sliding away, and thrust the steel into its back, a few feet from the tail. The Count vainly tried to stop the monstrous reptile, which dragged him along, though the cutlass had pierced its body and entered the ground beneath. It was fortunate that the serpent did not bend backwards, and entwine its bold pursuer in its folds,—nor less so that Count Bismark, the only one who was armed with a gun, came up at this critical moment; climbing over the trunk of the tree, he faced the enemy, which hissing lifted its head erect in the air, and with great coolness gave it a shot *à bout pourtant* through the head, which laid it apparently lifeless on the ground.

My companions described the creature's strength as

wonderful, writhing in immense folds, and flinging its head from one side to another in its efforts to escape the well-aimed stroke of Count Oriolla; but a few moments after the shot, which carried away its lower jaw and a part of the head, the serpent seemed to arouse from its stupefaction, and Count Bismark hastened back to the boat to fetch Mr. Theremin's gun. All this was the work of a few moments: I had hardly left the boat more than two or three minutes, when I stood beside Count Oriolla, on the trunk of the tree, with the serpent coiled up in an unshapen mass at its roots. I could scarcely wait to hear what had passed, but seized a heavy pole from one of the men who gathered round, to have a thrust at the creature's head. Raising itself up it now seemed to summon its last strength, but it vainly strove to reach us on the tree. I stood ready, armed with a cutlass, to thrust into its jaws, while the Count stirred up the serpent, provoking it to the fight; the creature's strength was however exhausted. Count Bismark now returned, and shattered its skull with another shot, and it died in strong convulsions. Though I could not share with my valiant companions the honour of the day, I was fortunate enough to arrive in time for the "Hallali." Our prey proved to be a large Boa-constrictor, measuring sixteen feet two inches in length, and one foot nine inches in circumference; the sailors called it a "Sucurijú." In skinning and dissecting it, a dozen membranaceous bags or eggs were found in its body, containing young serpents, some still alive, and from one to two feet long.

The Counts kindly presented me with the beautiful skin, which was spotted white, yellow and black, and covered with small scales: this trophy of their valour now forms the chief ornament of my residence at Monbijou. As soon as the task of skinning was accomplished, which the thickness of the animal's scaly covering rendered very difficult, we again set sail, soon after twelve o'clock, and continued the ascent of the Amazon, carrying off the skin of the Boa in triumph, spread out to dry upon the roof of our boat.

The lofty forest-trees were gradually succeeded by fan-palms, and on doubling a point we saw the Villa de Gurupá before us, crowning the banks of the river, which were here upwards of twenty feet high, and resembled a red wall rising above the muddy waters of the Amazon. This perpendicular wall, of ochreous sandstone conglomerate, on which the small place stands, was the more pleasing to our eyes, as we had seen no high ground since passing the steep shore of Olinda, which rises from the forests of cocoa-nut trees near Pernambuco, nor had we seen any human habitations since quitting the environs of Breves. The small fort, situated upon a prominence on the eastern part of the town, was the first object that caught our eye, but the approach of darkness prevented our viewing it more nearly. Seen at a distance, this "Key of the Amazon" seemed merely a weak, irregular wall, mounted with a single gun and a sentry-box. Von Martius is therefore quite correct in calling it an escarpment; he adds that it is built of clay, but this seems to be erroneous, for it appeared through

the telescope, on our second visit to Gurupá, to be built of stone. From this wall extend some palisades. Following hence the ridge of the river's bank westward, a large wooden cross first meets the eye, behind which stands a plain church painted white; we then came to the small town, consisting of two streets and about a dozen white-washed houses covered with clay roofs, among which is that of the Commandant; huts with roofs of palm-leaves, or large ranchos, terminate the place. The background consists of virgin forest, while a few palm-trees in front break the monotony of the picture. It was six o'clock P.M. when we approached the north-east end of this place: here we stepped on shore, and sent the Igarité to the other anchorage on the south-west point.

With the exception of Pará, Gurupá is the largest place we have seen in our voyage up the Amazon: it is said to have been originally a settlement of the Tupinambas. The Dutch, in company with some English and French adventurers, established themselves here about the year 1615; they were however unable to retain possession of the place, and were obliged to yield to the Portuguese, who arrived from Belêm in a carvel and twenty-two canoes, with a force of seventy soldiers and a thousand native archers, under the command of Bento Maciel Parente. As soon as they had taken possession of the settlement, the Portuguese erected Fort S. Antonio. Gurupá occurs in history only in connexion with the Jesuits: one day, in the year 1655, the excited inhabitants put the Fratres who were settled here into

a canoe, and turned them adrift upon the stream; at a later period however the Jesuits met with such a kind reception from the inhabitants and their Capitão, that many of them took refuge here for a considerable time; until in the year 1661 ninety Portuguese and four hundred Indians arrived in twenty-six large boats from Belêm, under the command of Pedro da Costa Favella, who seized the missionaries and conducted them to the city. In 1693 Gurupá received from Dom Pedro the Second of Portugal the title of a "Villa"; it contains at present from forty to fifty houses, and is of some importance, inasmuch as all vessels ascending or descending the Amazon are stopped here and searched. The inhabitants make bricks, tiles and pottery; they collect cocoa and sarsaparilla on the neighbouring islands, and extend their excursions as far as the Xingú. As we walked through the streets of this small place, the thousand-voiced concert of the Howling Monkeys resounded in the neighbouring forest. At seven o'clock P.M. we continued our voyage, entrusting the Boa's skin to the care of the Commandant, who promised to have it properly dried and prepared. A fresh breeze soon drove us so close to the reefs of the Ilha Redonda, that we were obliged to enter the channel north of the island, though the regular passage lies to the south. I slept during this night*.

* Temperature at a quarter past six, that is a quarter of an hour after sunrise: air 21° R. (79°,2 F.), water 23°,4 R. (84°,7 F.). At noon: air 24°,5 R. (87°,1 F.), water 23°,6 R. (85°,1 F.). At 6 P.M. air 23°,2 R (84°,2 F.), water 23°,6 R. (85°,1 F.)

November 30th.—The rising sun shone upon the small island of Tarazéda, lying on our left. It is said that the fabulous gigantic serpent, the man-eating "Boï-uassú*," is seen occasionally upon this island: it is probably the same monster which Spix and Martius call the "Fluss-mutter" (Water-mother). We subsequently procured more detailed information respecting this imaginary creature, and from the lips of a man whose credibility we had otherwise not the slightest reason to doubt—our faithful travelling-companion on the Xingú, Father Torquato, to whom the reader will soon be introduced, and who assured us that he had himself seen the Boï-uassú. He told us that three or four men are unable to encircle it with their arms, and that its articulated body resembles a number of hogsheads strung together; adding that at Vigia a cannon was fired at this creature without hitting it, upon which the serpent took to the water. Popular tradition likewise speaks of a monster called "Acará-mboya†," that generally lives in deep places abounding in fish, and swimming against the current meets the fishermen and displays its breast and head, the latter decked with three feathers. But the most formidable creature of all is the seven-headed "Serpente," which, according to Albuquerque's description, lives in the lake of "Sette Cabeças," formed by the Ajará (an arm of the Amazon) opposite the Serra de Almeirim; he said that

* Boï-uassú is the name of this great serpent, from *Boï* or *Boya*, serpent, and *uassú* or *guassú*, great. The Indians call the Boa-constrictor by this name.

† Acará-mboyá signifies "Heron-serpent."

the existence of this serpent was not quite certain, but the Acará-mboya had shown itself under the following circumstances as recently as the year 1834, in his neighbourhood on the Peturú, not far from where the Xingú is joined by the Aquiquí. A father went with his three sons to fish, but before setting to work he was anxious to ascertain the truth respecting the existence of this serpent. All three (?) discharged their guns thrice, as nine shots fired three at a time constitute the charm to call up the Acará-mboya to the surface: just as the ninth shot was fired, the serpent appeared, and made straight toward them, whereupon they threw down their guns and sought safety in flight. To this wonderful story the pilot added from his own experience, that he had once heard the roaring of the serpent; but as many other creatures, especially the alligators, joined in the concert, it was difficult to say from what part the sound proceeded.

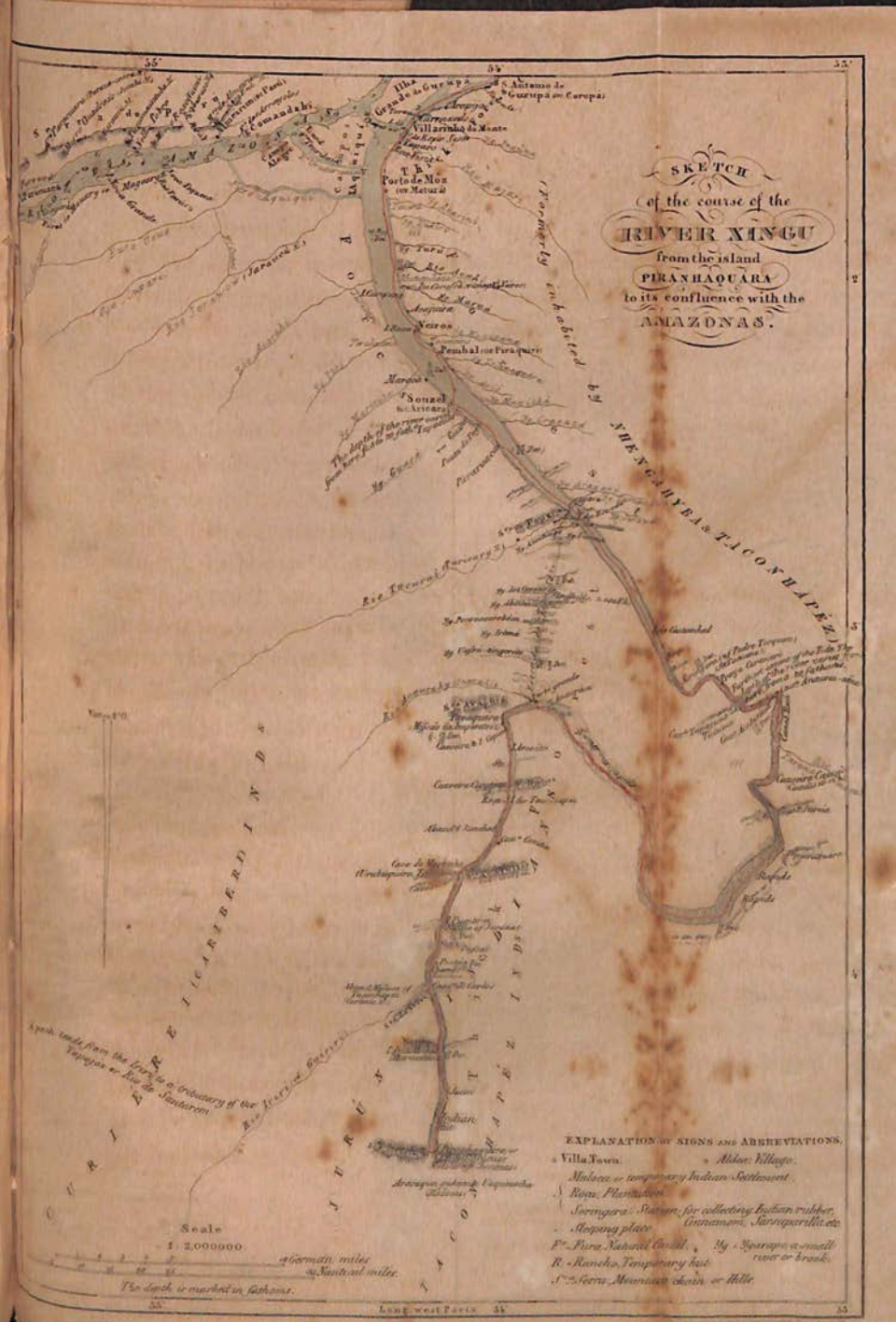
The river is here about a nautical mile in width; on its right bank lies the Aldea Carrazédo, near the island of Tarazéda, but we could not discern it. At eight o'clock A.M. we sailed past Villarinho, which is indicated by two houses beneath a large tree, with two small islands in front. We afterwards passed the Ilha do Chapeo Virado ("of the inverted hat"), a small island covered with trees, lying alone in the middle of the stream, surrounded with large-leaved plants of *Caladium arborescens*, and almost choked by a compact mass of lianes. At eleven A.M. we reached Tapará, consisting of a few huts upon the sandy shore, overshadowed by

trees. Since leaving Gurupá we had observed that a strip of sand occasionally skirted the forest,—a proof that the banks were now more elevated. A charming group of young Assai-palms stood near this spot. On landing, some strange utensils attracted our attention, among which were prettily painted Cujas, the shells of gourds or calabashes, also vessels made of the fruit of the Najá-palm, and others formed from the breastplates of the cayman.

The banks of the Amazon higher up were clothed with fine forests, but the Miriti-palms now wholly disappeared, to us at least who were entering the Xingú, where this beautiful tree is not met with. The three Ilhas do Espirito Santo on our right presented some very pretty views, and we soon after passed Boavista, which consists of a few houses on the right bank of the river. The Amazon further on widens considerably, and its bed is sprinkled with numerous islands, while toward N.W. by W. the long low ridge of the Serra de Almeirim had the appearance of a strip of blue mist. We now turned sharp to the left, round a wooded sandy point, and again an ocean seemed to open before us,—it was the Xingú, which, unbounded on the south, presented a wonderful appearance even after we had proceeded eighty (320 Engl.) miles,—a distance which may be compared to a voyage up the Rhine from the German Ocean to Mayence. We had for some time noticed the clear, green waters of the Xingú, which succeeded the muddy, yellow stream of the Amazon. Half an hour later we anchored at Porto de Môz. A long row of houses

which half-way up is joined by two others, extends partly upon an undulating ground, and partly along the flat sandy shore, pleasingly interspersed with beautiful groups of palm-trees. Porto de Môz appeared to us somewhat smaller than Gurupá, and the Commandant's house is the only one whitewashed; nevertheless it made a much more lively impression on us, for the inhabitants were just solemnizing the festival of Saint Andrew. The negroes were dancing in a house, to the sound of the "Benguá" (tamtam), a short piece of the trunk of a tree hollowed out, and covered with skin at one end. Before the church, which stands in a square near the middle of the place, whence there is a fine prospect over the Xingú, stood some flags, wreathed with lianes and the tufts of bananas. After awhile the whole population made their appearance, consisting mostly of coloured people, the younger portion entirely naked, and a procession was soon formed, at the head of which were carried the flags.

A pretty schooner, belonging to the Commandant, gave indication of the commerce of this place, and two similar craft were on the stocks under a roof of palm-leaves. The population of this district is about four thousand. The Commandant, a Major of the National Guards, is at the head of a battalion of three companies,—the first stationed at Porto de Môz, the second at Veiros and Pombal, and the third at Souzel. Although the Major had been seven years on this station, he had never,—"por falta de commodos," for want of convenience, as he naively expressed himself,—inspected the


SKETCH
of the course of the
RIVER XINGU
from the island
PIRANHAQUARA
to its confluence with the
AMAZONAS.
Villa Grande de Gurupá
S. Antonio de Gurupá or Curupá
Villarinho de Monte
Porto de Moz
or Meturé
Pombal (or Paraquiri)
Souzel
or Aricará
Rio Xingu
Rio Tocantins
Rio Iriri
Rio Curuá
Rio Jamundá
Rio Trombetas
Rio Nhamundá
Rio Jary
Rio Paru
Rio Jaburú
Rio Jauaperi
Rio Negro
Rio Branco
Rio Solimões
Rio Purus
Rio Juruá
Rio Javary
Rio Içá
Rio Napo
Rio Putumayo
Rio Yapurá
Rio Caquetá
Rio Uaupés
Rio Tiquié
Rio Içana
Rio Guainia
Rio Orinoco
Rio Casiquiare
Rio Cababury
Rio Uatumá
Rio Urubú
Rio Anibá
Rio Madeira
Rio Tapajoz
Rio Arapiuns
Rio Maecurú
Rio Curuá
Rio Paraná
Rio Amazonas
Rio Tapará
Rio Tapará
Rio Tapará

two last-mentioned companies of his battalion; nor had he ever journeyed further than his head-quarters, about four leagues up the Xingú: the information he gave respecting this river and its inhabitants seemed therefore not to be particularly authentic. He told us of a tribe of Indians hostile to the Jurúnas, who hang their prisoners up by the legs, and kill them by a blow across the neck: this was nearly all that he had to communicate. Opposite Porto de Môz lies the flat island of Aquiquí, separated from the main-land by a channel of the same name, which connects the Xingú—here from three to five nautical miles broad—with the Jaraucú and the Goajará. Thick black clouds of smoke rose from behind the distant forests on this island, which is said to contain tigers and alligators; it would however have led us too far out of our way to go in chase of these creatures, as such an excursion requires at least three or four days, and my chief object, during the limited time at my command, was to ascend the Xingú as rapidly as possible and visit the savages.

About seven o'clock P.M., as night was closing in, we again set sail, and steered southward against the current of the river, which appeared to run from south to north. It was a bright starlight night: the Furo de Aquiquí, which the pilot said flows by the place where we saw the fire above mentioned, was soon passed. About two hours later we heard a boat rapidly approaching us: in it was a young Frenchman, the son of the shipwright of the imperial dockyard at Pará, M. Pichon, whom the

Commandant had kindly sent after me with a present of a young "Jacaré-tinga," a small kind of alligator hardly two feet long: although our acquaintance had been so short, the Commandant had discovered our unequivocal predilection for alligators and their congeners. These animals are said to be a great delicacy; nevertheless we granted our prisoner its life, and after dismissing M. Pichon with many thanks, a place was given to the alligator under the floor, where it soon made itself at home, and began running about with great vivacity among the plates, cups and saucers; indeed it grew so bold and impudent, that when we attempted to take any of these things away, it snapped at us with its little jaws. At eleven o'clock at night we anchored near the right bank of the river, to await the flood-tide*.

December 1st.—We were again under sail at five o'clock this morning. At daybreak the colour of the Xingú became clearly observable, and appeared to be here of an almost black bottle-green, much darker than yesterday. We soon after saw on our left the mouth of the Ygarapé Turu, an insignificant tributary, which flows into the Xingú a short distance before the latter joins the Amazon. At seven o'clock we ran into the Acahí, a branch of the Xingú flowing from E. by N. Here were the homes of our two pilots, who were anxious to visit their families. The banks of the Acahí are overgrown

* Temperature:—At six o'clock A.M.: air 20° (77° F.), water, 23°,4 (84°,7 F.). At noon: air 24°,4 (86°,9 F.), water 24°,7 (87°,6 F.).

near its junction with short, thick copse, which has quite the appearance of Capueira*, margined near the river with *Caladium arborescens*. Here and there on some small points of sand, projecting into the river, were scattered a few habitations, which like those of Tapará and Breves formed a kind of transition to the huts of the Indians. In one of these cabins on the left bank, Albuquerque the Portuguese met his wife and children, who had been obliged to fly from their own dwelling, higher up the river, by the appearance of roving bands of deserters, and had here sought protection among their relatives. Our second pilot—the native one—also introduced his wife to us; both ladies were of Indian descent. A slight frame of poles supported the palm-leaf roof of the fragile hut, the walls of which were made of the same material; and some *redes* (hammocks) slung across the room, together with a footstool or Indian chair, formed the only furniture in the apartment. We observed on the ground, and on a kind of shelf in a corner made of sticks, a number of utensils and fruit-capsules of the Najá-palm similar to those we had seen at Tapará; there were likewise large baskets and pots filled with raw cotton. Several other baskets were suspended to the walls, together with materials for weaving, bunches of bananas, linen-jackets, shirts, and straw-hats: bows and arrows stood ranged against the wall. In a hammock in the middle of the room lay a fine-looking boy, fast asleep and naked as when born. A second door-like opening

* The word Capueira, or Capoeira, is a corruption of Caâ-pirera, felled forest.

behind admitted a view of the small Acahí, gliding peacefully along, and bounded by the dark forest on the opposite bank. The children, it will have been seen, here go stark naked: the men in this part of the Lower Xingú and Amazon generally wear short linen trowsers, and seem to consider any other clothing superfluous finery; whilst the women are usually dressed in a petticoat and short jacket, their hair wound into a single tuft on the crown of the head, which gives them a somewhat wild appearance.

After a short stay here we took leave of our Indian pilot, who remained behind with his family: in the fulness of his gratitude he presented to us five hens' eggs; then bidding adieu to these friendly people, we returned the short distance down the Acahí, to continue our voyage up the Xingú. The fresh "vento geral," which swept over the land, filled the square sail and favoured our progress today considerably. Any person transplanted suddenly to this part of the river, which is here from three to four nautical miles wide, might fancy it an arm of the sea: looking up or down the stream, south or north, the waters stretch unbounded to the horizon. In the far distance behind us we saw large columns of smoke, apparently rising from the river; these were occasioned by the fires we saw last night on the Campos of Aquiquí, opposite Porto de Môz.

The woods on the banks of the Lower Xingú have all the character of a capueira, though I am sure that neither these nor the woods at the mouth of the Acahí were ever burnt down; in some parts they were skirted

by white, sandy plains called "Prayas." Von Martius, though he had merely a glimpse of the Xingú in passing its mouth, mentions the striking contrast of these woods with the Ygapó and palm forests of the Lower Amazon, and dwells on the similarity of the vegetation around Porto de Môz with that of some regions of southern Brazil.

Among these Prayas the great Praya de Maruá is pre-eminent, situated near the little river of the same name, which the pilot told us is, like the Acahí, a small arm of the Xingú, flowing north-east. "On this sandy point," he added, "are collected the largest number of turtles' eggs, which abound here in September, when those creatures lay their eggs." They not only serve for food, but also yield a kind of yellow oil, called "Manteiga" (butter), which is employed both for culinary purposes and for lamp-oil.

At two o'clock P.M. we passed the small Aldea Acajuira, also situated on the right bank of the river. The stream here widens gradually, the land receding on its right bank, and forming a broad bay, on the shore of which stands the small town of Veiros. As we approached a pretty island, situated on the east point of this lovely bay, a number of flesh-coloured Botos rose from the water, playing around our boat, which accompanied us as far as Veiros. This place lies toward the south end of the bay, near where the banks resume a straight direction; it is situated on a clayey eminence twenty feet high, rising precipitously from the sandy shore.

The first object which here met our view was an Indian woman, half-naked, sitting in a canoe and bathing her children in the river; no sooner did she perceive us, than she took to flight with her little ones. On landing, numerous masses of red rocks of a scoriaceous appearance scattered over the shore attracted our attention; they seemed to me similar to the ochreous sandstone conglomerate, which Spix and Martius noticed in such quantities on the shores of the Amazon. We were tempted to ascend the river's bank: a broad flight of steps led from the shore to the church, which stands in the midst of twenty or thirty miserable clay huts roofed with palm-leaves, whilst a thicket interspersed with palms formed the background. On a prominent point before the church is erected a large wooden cross, a solemn and significant memorial seen from the bay and the opposite distant shore of the Xingú, which here extends like a broad arm of the sea, and seems as if it flowed from one ocean to another. To the cross has unquestionably been assigned the most beautiful and the most appropriate site in all Veiros. Peculiarly charming is the prospect from the foot of this cross over the smooth bay, receding in a gradual sweep, and its picturesque islands near either extremity. Opposite the island, before mentioned, rises on its southern point the lovely, shady Ilha Roxa from the dark-green waters of the river. A few huts were seen through the luxuriant masses of foliage, from which rose here and there the lofty spire of a palm-tree. Between Veiros and this little island the Maxipaná flows into the Xingú. This place seemed quite deserted, the

woman and her children whom we had seen in the canoe being in fact the only human beings visible. The men had all left Veïros, and were gone to their "Roças" to plant before the rainy season,—a practice which is followed by all the inhabitants of these semi-Indian villages: the whole population therefore at this time consisted of the women, who however thought it most prudent not to make their appearance. Nevertheless Veiros was not wholly without life,—a flock of black and yellow Japús, alighting on a palm-tree, greeted us with a deafening noise.

The sun was setting as we started again on our voyage up the stream, and the stars soon shone brilliantly in the clear sky, while from the forest on our left resounded the cry of the Sloth, as our pilot and the crew declared, though the noise we heard resembled strikingly that of the Howling Monkeys. At eight o'clock P.M. we reached the roadstead of Pombal, if such it can be called, where we sent Albuquerque on shore to procure provisions. Meanwhile, as we sat waiting in the boat, we saw through an open door a light burning in a hut, which reflected upon several hammocks presented a pretty picture: the dogs too were barking. In a quarter of an hour we continued our voyage for a short distance, and then halted to await a favourable tide*.

December 2nd.—We weighed anchor at five o'clock

* Temperature:—At half-past five o'clock A.M.: air 19°,1 R. (75° F.), water 23° (83°,7 F.). At noon: air 25°,2 (88°,7 F.), water 24° (86° F.). At sunset: air 25° (88°,2 F.), water 24°,4 (86°,9 F.).

A.M., and soon after the sun cast his rays on the small village of Maracá, lying on the opposite left bank, the character of which now changes, the ground rising gradually, and exhibiting occasionally between the dark masses of wood precipitous red-coloured banks. Favoured by a fresh breeze we crossed the Xingú diagonally, here from three to four nautical miles wide, and steered toward Souzel, which we discerned a-head, near a wooded point on the left shore. It was ten o'clock A.M. when we anchored in the small and pretty bay, encircled by low bushy hills, margined by a narrow strip of sand. Souzel extends along this strand; its red, tiled roofs had attracted our attention for some time previous.

We have before said that the parish-priest of Souzel was recommended to us while at Pará, as the man best able to give us authentic information respecting the savage tribes inhabiting the banks of the Xingú, and to afford us assistance on our purposed visit to them. All our hopes therefore rested upon the good Padre, the success of our expedition depended entirely on his aid, and Souzel was the place where our fate would be decided. We immediately despatched Count Oriolla on shore to look for the Padre, and deliver to him the letters from Pará; meanwhile we sat anxiously expecting his return in our floating ark, which the light waves of the Xingú rocked to and fro, as if we had been lying in a bay of the ocean. In a few minutes the Count re-appeared, accompanied by the hale-looking youthful Padre, Torquato Antonio de Souza, who in the most friendly manner immediately offered to accompany us. His ap-

pearance at once dispelled the excusable apprehension I had sometimes felt, that he might rather prove a clog to our expedition: before us stood a tall, muscular figure, drest in a Brazilian jacket and a straw-hat, while the sunburnt features of the young priest, about thirty years of age, bespoke hardihood and decision of character. His appearance contrasted forcibly with that of our reverend companion in our visit to the Puris on the Parahyba, who, though equally kind-hearted, could not compare with Padre Torquato in activity. The latter was evidently a man accustomed to toil, to whom a life on the rivers and in the forest was nothing new, and this naturally inspired us with confidence in his powers; the Padre in fact was just the man we needed, and the more so from his position, and the respect in which he was held by the Indians. Torquato de Souza was born in Salina; in youth it had been his ardent wish to be a soldier, but this did not accord with his father's views, and he was obliged to enter the college at Olinda, to be educated for holy orders. Though now chained for life to his vocation, he soon succeeded in procuring an appointment which well suited his predilections and enterprising spirit; he was sent as a missionary, in the first instance to the Mundrucús, and afterwards to the Jurúnas, among whom he had now resided for two years. I told the Padre my desire to visit some perfectly uncivilized Indian tribes, and if possible to see the cataracts of the Xingú. He was of opinion that both these objects might be accomplished in about twelve days, and promised to conduct us to the

Jurúnas as the nearest, and to the Taconhapéz as the most interesting, of the Indian tribes. He seemed quite to welcome this opportunity of accompanying us, as he was only acquainted with the nearest Maloca* of the Jurúnas, the inhabitants of which he had converted to Christianity, and it was of great importance to him as a missionary to extend his connexions to other Indian settlements: the cataracts likewise were as unknown to him as to ourselves.

We now set about arranging the plan for our voyage: a glance at the accompanying map, which has been in a great measure laid down from our notes and observations, will convey an idea of it to the reader. I would observe that the general course of the Xingú as far as the greater cataracts, or rather rapids, lies from south to north; from thence it makes a great curve to the south-east, and, shortly before the junction of the Tucuruí, resumes its former more northerly direction. To accomplish the distance described by this chief curve against the stream, would according to the report of some Indians take twenty, others said forty days, owing to the force of the current. To avoid such a waste of time, the Jesuits had formerly constructed a picada connecting the two points of the arc, which two years ago had been partly repaired by our Padre. This footpath, which is much used by the Indians, forms the only land communication with the Upper Xingú, and is called the "Estrada:" it commences at a short distance from the

* Maloca (from *Oca*, house, hut; *Malaoca*, settlement) signifies in the "lingoa geral" any settlement of wild Indians.

mouth of the Tucuruí, and leads in a straight line to the lower Anaurahy (Anauhirahi), which river soon after falls into the Xingú, just at the point where the great bend in the latter commences. The starting-point of this path, near the Tucuruí, is called the "Boca da Estrada," and at its southern end where it meets the Anaurahy it bears the high-sounding name of "Porto Grande." On the proposition of Padre Torquato, we now resolved to sail in the Igarité up the Xingú and the Tucuruí as far as the Boca da Estrada, and to proceed from thence on foot by the path to the Anaurahy, a journey which may be accomplished according to circumstances in two to four days. We intended to embark at Porto Grande in canoes, and after descending the Anaurahy to sail up the Xingú to the last, or more properly the lowest, Maloca of the Jurúnas, which lay in the vicinity. From this point we agreed to leave our further arrangements to chance; all the country above that settlement was, even to the priest of Souzel, almost a *terra incognita*. He conjectured however—for any calculation of time was here *only* conjecture—that two or three days would suffice to proceed from Taua-quéra (as this last settlement is called,) to the perfectly rude portion of the Jurúna tribe. We planned to return by the river; and, following the south-eastern bend, to descend the Caxoeiras (cataracts): the Igarité was either to meet us at the small island of Castanhal, below the "ultima Caxoeira" (the last fall of the Xingú), or to wait for us in the Tucuruí. The Indians calculated about ten days for the voyage with the stream, along

the oft-mentioned south-eastern bend of the Xingú; but the Padre, aware of the dilatory movements of the Indians, thought that we might accomplish it in five or at most six days.

Having thus sketched out these arrangements for our expedition up the Xingú, our new companion returned home to make the necessary preparations; while, availing ourselves of the few hours which Padre Torquato required for this purpose, we set out to explore the land, after first seeing the Igarité drawn up on shore.

Souzel consists of forty or fifty clay huts, and large open ranchos or sheds. The Padre's house is the only one white-washed, and, like the adjacent small dilapidated church dedicated to San Francisco Xavier, has a tiled roof. The church is situated at the south point of the town, in the middle of one of the two streets which run parallel with the river,—the one nearest to the bank of the Xingú. Before the church is a large wooden cross, as is customary here, its foot fixed into a square clay pedestal; close to it stands the belfry. The church has no steeple; it is only distinguished from the other buildings by a small cross on the gable-end of its roof, through which the scorching rays of the tropical sun have in many places free access to the interior. The inside of the building presents by no means a pleasing appearance: graves have been sunk in the hard floor, which are covered with half-rotten planks, while some old and badly preserved gilt ornaments and pictures of Saints, especially an image of the Virgin, are indications of former splendour and opulence. Souzel was once the

chief station of the Jesuits on the banks of the Xingú, and, like Veiros and Pombal, it owes its foundation to that Order. The disciples of Loyola however were less fortunate in their efforts to convert the natives on the upper parts of the river: although they explored it to a great distance, they never succeeded in permanently establishing a church or missionary among the Jurúnas above the cataracts; but the inhabitants of the three places just mentioned are mostly descended from wild Indian hordes, whom the Jesuits found in these regions, and who on being baptized settled in villages. The rest of the population consists of persons of mixed caste, descended from natives and whites; very few of the latter are met with among them.

These places are inhabited only a few months in the year, the inhabitants migrating—as was now the case—to their "Sitios," widely scattered on the banks of the river; here during the winter-time, from June to about December, they are occupied in gathering and preparing Seringa (India-rubber), and during summer collect sarsaparilla, balsam of copaiva, clove-cassia, cocoa, etc. The men likewise hunt and fish, while the women remain at the Sitios, and prepare farinha with which they trade. Twice a-year, on St. John's day and at Christmas, the whole population assemble in the villages; most of the inhabitants consider them therefore merely as a *pied-à-terre*, when they barter their raw products for stuffs and other simple articles of manufacture, or embark their merchandize for Pará. The concourse of people at these times is said to be considerable; for

instance from Christmas to Easter each of these three places contains five to seven hundred persons, and Souzel, as one of our party understood the Padre to say, even twice that number*. After the festivals most of these families disperse again to the Sitios, and resüme their customary occupations. There was little life in Souzel; in fact all the large, barn-like ranchos stood empty. At the foot of the wooded hillocks behind the place, the edges of which had been cleared and planted with mandioca, bananas, mamões, etc., rose a few solitary palms. A fine breadfruit-tree behind the town was of great interest to me,—it had perhaps been planted by the Jesuits. Returning to the sandy shore, we observed blocks of ochreous sandstone conglomerate, similar to those near Veiros; this rock seems to abound in these parts, and probably caused the red appearance of the steep cliffs we had noted this morning on the left bank of the river.

The little bay of Souzel has a smooth clay bottom, in which the anchors hold so fast that the people prefer hauling their boats on shore. Two imperial war-schooners the 'Amazonas' and the 'Mundrucú' some time ago visited this anchorage,—if I mistake not, it was said that they sailed up as high as the neighbouring "ultima Caxoeira." During some part of the year the tide is felt up to this point, but the flood is said not to cause a corresponding reflux in the Xingú, and the water only swells.

Albuquerque informed us that from Porto de Môz to

* In 1788 this place had about eight hundred inhabitants. See Southey's History of Brazil, vol. 3. p. 735.

Souzel there is a depth of eight to twenty fathoms in the middle of the stream; but the nature of the bottom varies equally with the depth, consisting in one place of clay, in another of sand, while in parts it is quite rocky. It is said that throughout the year there is a depth of three fathoms in the mid-channel as high up as the lower cataract.

After the Padre had hastily made his arrangements and finished all needful preparations, he came on board the Igarité, accompanied by an Indian boy named Francisco; and at one o'clock we left the little bay, several Botos playing around the vessel. Our frugal dinner was soon served, and was enriched by the interesting conversation of our new companion; at its conclusion I proposed the health of the Emperor, who this day entered on his eighteenth year. We now made the necessary preparations for our march overland, packing up the articles which we intended to barter with the Jurúnas; these treasures consisted of glass-beads, small looking-glasses, knives and axes: we afterwards amused ourselves with sketching, or firing at the Botos, but without success.

At a short distance above Souzel, round the nearest point, lies the great Roça Tapacuari, which was succeeded by several small wooded headlands jutting out into the river and imparting variety to our voyage. The forests on the left bank, along which we rowed, were margined with white strips of sand, partially covered with debris of a reddish colour; and though destitute of palms, the luxuriance of the splendid trees and their

pleasing forms gave additional charms to the numerous small projecting points. Passing Punta de Pajé, we observed for the first time, in place of the sea-like horizon, a long straight elevated ridge, stretching far eastward into the river, and terminating abruptly. This was the distant Cape Tapará, behind which the Tucuruí falls into the Xingú, while on this side of it extend small elevations. Between this Serra de Tapará, which may be regarded as the extremity of the Brazilian high table-land, and the Serra de Almeirim, the most southern spur of the mountains of Guiana, appears to be the narrowest point in the immense valley of the Amazon, the distance between these two mountain-ridges being only from thirty to forty (120 to 160 Engl.) miles.

After we had ascended the stream for two days, the Xingú assumed the appearance of a river, though behind us in the direction of N.W. by N. it still looked as if it opened toward an ocean. The sun set, and darkness succeeded. Soon after seven o'clock we stopped near the house of the smith of Pararuaca, to have Count Bismark's fowling-piece repaired. A strange circumstance was connected with this: ever since killing the large boa-constrictor it had obstinately refused to act; all the means which the Count could devise to repair the mischief were fruitless,—the gun would not go off. This was a great cause of rejoicing to our Brazilian crew, since, according to their superstitious notions, it could not be otherwise; and at every unsuccessful snap of the percussion-cap they cried, "Este he a cobra! Este he a cobra!" They looked upon the Count's persisting in his

attempts as highly criminal, cast suspicious glances at one another, and at every new attempt to discharge the gun jumped up from their benches. After working for an hour and a half, the smith succeeded in extracting the shot, and the spell was broken!

We continued our voyage at half-past eight o'clock, and rowing without stop the whole night we doubled Cape Tapará and entered the Tucuruí. I missed the moment of our passing the mouth, having fallen asleep; nor did I awake till between four and five o'clock, when we were already in the river, which flowed from the south-west with numerous bends.

December 3rd.—The struggle was still going on between night and day; dark masses of foliage and creepers hung over the small rivulet, which meanders through the thick forests; here and there a solitary star was still reflected in the dark waters; a light glimmered between the trees, and presently another, when the lusty voice of the Padre was heard, as we passed the scattered dwellings of the half-civilized Indians, calling to the men on shore to follow us to the "Estrada" in their canoes, or to come at once on board and assist us in rowing. From time to time a voice answered from the dark forest, and one of the strange figures leaped into our boat, and began to row with all his might, never asking whither we were going or how long we should be gone: this is a matter of so little moment to these children of nature, that they have even no words in their language to express time and space. The stars now disappeared, and we began to discern the objects

around us more clearly: in a few minutes the daylight triumphed over the shades of night. What a rapid victory, in these tropical climes, as compared with the prolonged transition in our northern regions, where the purple sky indicates whole hours of contest between light and darkness! Thus too has man himself, with us, to maintain a continual contest with nature, while here under the equator nature breathes the purest harmony, unresistingly resigns herself to man, and even invites him to enjoyment.

It was five o'clock this morning when we fastened the Igarité to a tree which overhung the right bank, and were told that we had reached the Boca da Estrada. A bright fire was blazing upon a small open spot among the trees on the bank, around which was collected a group of men, clad, in the fashion of the country, in short grey jackets or shirts of coarse linen and breeches of the same material: the brown complexion of their neck and chest showed them at once to be of Indian extraction. A short wooden powder-horn, a shot-bag, and a small grey pouch were slung across their shoulders, whilst their long guns rested peacefully against the trunk of a tree. We also observed some *redes* suspended from the branches, which showed that a party of the Indians had passed the night here. Previous to our departure from Souzel, the Padre, in his anxiety for our comfort, had despatched a canoe on before, to make the necessary arrangements for our voyage and to engage the crew. The group of men we now saw were to be our new travelling-companions, to hunt for us, or assist in carry-

ing our provisions and afterwards to serve as pilots and rowers in our further navigation of the Xingú and its caxoeiras. Among them we noticed Roxa, the dark, gloomy-looking Portuguese, who, being the only one that understood the language of the Jurúnas, was to serve as our interpreter. The other men only spoke the "lingua geral," which is here in common use; the Jurúnas are not wholly unacquainted with it, and Padre Torquato spoke it fluently: the men also understood a little Portuguese.

As soon as we reached this point, where our voyage was to stop, there was a general stir under the palm-roof of the Igarité; and soon after all was activity on board our floating dwelling, from which we were now to part for some weeks. Provisions were shared out, and the packages arranged: a cylindrical tin vessel, a foot and a half long, and a foot in diameter, contained all the food to last us for the next fortnight, except the mandioca-flour. Our stores consisted of rice, beans, chocolate, tea and sugar. We did not add our whole stock of salt, but out of foresight I filled an earthenware bottle with it, which could be slung across the shoulder. We took with us two baskets full of farinha; a third basket, with the huge bottle of caxaça for the men and the small tin medicine-chest, were for the present left behind, as we were in want of porters: three or four more however were to follow with all speed under Roxa's command.

The sun rose as we were busied in making these preparations for our journey. I was struck by the great difference between the temperature of the Tucuruí, which

at this time was not higher than 20° R. (77° F.), whilst the air was 20°,2 R. (77°,5 F.),—and that of the Xingú, which yesterday at the same hour was 24° R. (86° F.), the temperature of the air being the same. I observed the same difference in all the rivulets which crossed the Estrada, during our journey: this probably arises from the cooling shade of the large forests through which these streamlets flow. Some of the crew of the Igarité requested permission to accompany us; to this I agreed, as we required a great number of people to carry our provisions and baggage, although so small in compass, for the great heat rendered the least burden very oppressive. In order therefore to advance rapidly through the forests, we were obliged to increase our force; and with this fresh accession our party now amounted to twenty men. The sailors and Indians preceded us a short distance; and sufficient time having been given them to load themselves, we started at seven o'clock A.M., and in a few minutes came up with the advance-guard.

It was interesting to see how skilfully the men packed their burdens: the pliable creepers served as twine, and thin strips of the bark of trees for braces. We continued our march without stopping: the Padre led the column, his gun slung over his shoulder, and lightly drest like ourselves. The footpath was at first easily discerned, but gradually the fallen leaves covered it more or less, often concealing it from our sight, while the thick bushes and tangled creepers rendered our march very fatiguing. The forest through which we proceeded could not vie with the magnificent primæval forests on the Parahyba;

the trunks of the trees were slender, though they shot up perfectly straight, as in all the forests of Brazil, and we seldom saw a really handsome or noble tree. The ground occasionally descended, here and there crossed by a clear little brook, and rose again with a gentle slope on the opposite side. We sat down at the first large Ygarapé, the Uassútinga, which we reached after an hour's march, and waited some time for our Indians, in order not to distance them too much. This considerate act was ill rewarded; a hard shower of rain fell, which effectually silenced the Doctor, who had taken his station under a tree, with his "Beranger" in his hand, from which he was reciting aloud.

As soon as our second column came up—it was out of the question to expect the third today, under the guidance of Roxa,—we crossed the rivulet and continued our march, while the Indians staid to rest. After the rain followed a hot sun, which dried our clothes in an instant. The path through the thicket now became more difficult at every step, as we had continually to climb over the trunks of fallen trees: nevertheless the Padre kept the lead with the same light step, and we again gained a considerable advance on the men. A few single trees of increased size and beauty appeared here and there, but the forest in general remained true to its character. One of the trees (a Copaiba, I think, but some understood the Padre to say an Itaubá) measured, at about four feet from the ground, thirty feet seven inches (English measure) in circumference.

At half-past eleven o'clock A.M. we reached the

Ygarapé Uierena, where we again stopped for two hours, awaiting the remainder of our column. It was a small open spot, surrounded and shaded by some high trees and thick underwood; close to the clear rivulet stood a rancho, resembling the huts of the Puris, and consisting of a roof of palm-leaves, supported by a few poles stuck in the ground, and tied with creepers,—a proof that the place was occasionally used as a nocturnal encampment by the Indians on their way to Souzel.

Refreshed by our halt, the whole column started again, with the Indians at the head, and after a few moments we came to another broad rivulet; across this the trunk of a prostrate tree formed a bridge, to which the Indians in passing had fixed a railing of lianes. Our party formed a curious picture as we crossed this bridge, the thick and shady foliage of the trees bending over the brook, and the graceful masses of tangled lianes nearly touching its surface. After awhile we came to some more fine trees, one of the trunks measuring thirty-nine feet in circumference; we estimated its height, with that of many others of these giants of the forest, at a hundred and fifty feet; for, notwithstanding its size, it appeared quite slender.

The sun had for some time sunk below the horizon, when the sound of an axe at a short distance caught our ear; and descending some undulating ground, we reached at about five o'clock P.M. the place where we were to stop for the night, the only cleared spot on the wooded acclivity. Here we found some Indians already busied in making a fire. We could distinctly hear the

rushing noise of the Ygarapé das Caxoeiras not far off. At the lower point of our bivouac stood a gigantic tree, and some of our men found shelter for the night in the dark hollows at its broad base. Before the tree, and partly inclined against it, stood a light, somewhat dilapidated rancho, the roof of which did not look as if it would keep out the rain. Two fires were soon blazing cheerfully, around which we stuck some poles, fastening lines from one to another, and hanging our wet clothes up to dry. A little higher up the acclivity, we spread out the small sail which Captain Buckle had given us, so as to form a kind of roof, while three of our party slung their hammocks to the poles that supported it: the Padre, the Doctor, and I fixed our *redes* under the canopy of heaven, to some poles arranged round the sailcloth roof.

It was quite dark, when the party collected about a small fire which we had made close to our three hammocks. That of the Padre was woven of blue and white cotton, and the two others of brown bast. The Padre's boy, an indefatigable lad of his age, quickly brought out the saucers which our reverend friend destined for the Indians, but which for the present we applied to our own use. "O Francisco! O Rapasinho!" cried the Padre repeatedly to the lad,—who had to look after everything, and to wait upon the whole company,—sending him now here, now there, but reminding him in the kindest manner of all he had to do. Then away ran the nimble young chap, to fulfil his orders, never showing any symptom of fatigue. What he could do was really

astonishing—almost incredible for a boy of his age. Heavily laden, he had journeyed the same distance as ourselves, and in the evening was just as fresh and active as any of our party, who had carried nothing. Rapasinho could not gainsay his Indian extraction.

Count Oriolla at length made his appearance with the steaming rice, and filled every one's saucer: obliged as we had been to deny our appetite until this fashionable hour, it may easily be imagined that we were prepared to relish our supper. In a few minutes afterwards we betook ourselves to our *redes*. All was soon hushed in silence; the fire burned brightly,—the clouds chased by the wind drifted across the sky, and the sloping ground was covered with leaves, which exhibited a phosphorescent light, similar to that we had observed upon the sea. I now followed the example of the rest, got into my hammock, and fell fast asleep, in spite of the rushing sound of the Ygarapé das Caxoeiras and the noise of the cicadas.

I had not rested long, when a shower of rain awoke me, and I fell into conversation with the Doctor. The Padre's white nightcap just then peeped out of his hammock, but he quickly drew it again over his ears. We presently fell asleep. In a few hours there was a second shower, heavier than the first, which extinguished the fires. Every one now sought shelter under the sailcloth, and I was fortunate enough to secure a place. With the antipathy however natural to a European for the stinging ants and other insects that swarmed upon the ground, I hailed the offers of Count Oriolla and Mr. Theremin of

a place in their hammocks. We tried in vain to make room for two persons, and were obliged at last to give up our fruitless gymnastic experiments, partly from the impossibility of keeping our equilibrium, partly from the Egyptian darkness that surrounded us, and partly because the slender hammocks were not able to sustain such a weight. For a moment the rain seemed to cease, and I instantly crept to my hammock. Another shower came on,—I cast a look at the Doctor, swinging in his hammock near me, and saw that he had no cloak; the sight excited my compassion, and I tried to share cloak and hammock with him; but although the intention was a noble one, its execution was anything but agreeable, for the end of it was that we both came rolling to the wet ground. This was rather too much for my patience; I sought again the shelter of the sailcloth as well as I could, working my way among the Indians. Once safely lodged under cover, I threw myself on the ground, and wrapping the poncho around me, managed to keep my head raised above the earth: my feet however were still exposed to the wet, and I tried to creep further under the sail; but the same reason led the Indians to make a similar effort, and in the end they succeeded in drawing the sailcloth away from us, leaving the hammocks dangling in the rain. In so doing they broke several of the poles, one of the hammocks fell to the ground, and the cloth hung dripping down. What a condition! here was I lying on my back, in pitch darkness, my face upturned to the rain, which, together with the water that poured as from a gutter, threatened fairly to wash me away,

while my person offered a welcome refuge in the deluge to a swarm of ants! I can only compare myself in this plight to a pitiable beetle, lying helpless on its back, while the crowd pressed around. At length I felt a sensation of warmth, and perceived a light behind me: this arose from a little fire kindled by the Indians, which I manœuvred to reach, remaining all the while on my back, and placing my head between two of the Indians, unable to stir right or left. At length, banishing from my thoughts all the ants of Brazil, I fell asleep.

December 4th.—Early this morning, after we had finished cooking and packed up our wet bundles, Count Oriolla, accompanied by the hunters of our party, started before the rest, promising to await us at the stream of Uassú-tingeréte, where we intended to rest at noon. Their object was, on reaching that spot, to hunt, until the chief column came up. The Count fancied he might thus have a chance of a shot, which, as we had seen clearly on the previous day, was out of the question amidst all the noise made by the loaded Indians and sailors. Considering the quick pace of the Indian hunters, we followed half an hour later, soon after six o'clock. Dr. Lippold had yesterday drawn my attention to the mephitic smell of vegetable matter, which is very perceptible in the forests after heavy rain: we perceived the same today. The poor Doctor was much to be pitied,—he had great difficulty in keeping up with the Padre, who seemed to proceed at a quicker pace than yesterday, in the hope of reaching by evening the Anaurahy, the object of our journey. Dr. Lippold carried a long spear,

provided with a hook instead of a point, for the purpose of reaching the climbing plants; this instrument seemed however to have a natural predilection for the lianes, for at every step the hook got entangled in them, and more than once pulled the unfortunate Doctor down on his knees. Nevertheless the worthy botanist evinced no intention of relinquishing his weapon, and we succeeded at length, after many bootless attempts, in freeing him from his plant-box and the great-coat with which he had loaded himself. The Padre himself disburdened him in part, and, amongst other things, attached the Doctor's large facão to his own person.

We had hitherto seen no palms in these forests, but today we met with them in large masses, although only along the banks of rivulets and in the low, swampy hollows, which today became more striking, as the hills were higher and more steep. We rested for a few minutes in one of these palm-groves: before us a clear brook ran murmuring along, on the bank of which stood a light-roofed rancho, shaded by the airy crowns of slender-shafted palms, between which the blue sky peeped forth. The sun was in his zenith, and shone down with great power, as if to make us forget the rain of the past night. Paint to yourself, Reader, the rapture with which we devoured some chocolate-nuts shaken from the tree, some castanhas do Maranhão, and a handful of farinha which the Padre carried with him wrapt up in a handkerchief,—imagine to yourself the eagerness with which we quaffed the cold water of the forest-stream,—and you have a picture of this short halt, and the simple enjoyment with

which we refreshed ourselves and prepared for new exertions.

Starting again we crossed the little brook by means of the trunk of a tree, ascended the rising ground at the back, and then continued for a long time our journey through the forest. We had scarcely proceeded for an hour from our resting-place, when the Doctor's strength quite failed him, and we were obliged to leave him in charge of one of the negroes, partly not to lose too much time, and partly to enable the Doctor to follow us slowly to our halting-place at noon. Meanwhile the road became worse and worse: every moment we were obliged to climb over some huge tree, lying prostrate across our path, or to creep for a distance of thirty or forty yards under the branches entangled with impenetrable masses of lianes. Toiling along thus, we continually shook down quantities of ants from the boughs, which, as we were lightly clothed, stung us unmercifully. Nothing however could stop the Padre, who advanced briskly before us, winding his way with wonderful dexterity through the thicket, and climbing or leaping over every obstacle,—and this too slipshod! In addition to these fatigues, we had great difficulty in tracking the path, which was so covered with fallen leaves as to be scarcely visible, and was frequently wholly lost to sight for a great distance as we crept through the tangled bushes. Occasionally we came to other cross-paths or tracks in the leaves, or lopped branches, the signs left by persons in passing; and at times we were brought to a complete stand-still for some minutes, till the Padre's

organ of locality befriended us and discovered the right path.

Soon after we left the Doctor, the country became more hilly, and we seemed to have reached the highest point of the elevated ground of the so-called Serra, which crosses the Estrada and occasions the great bend in the Xingú. I well remember with what pleasure we looked down from an open spot in the forest on to a charming valley, covered with tall Assai-palms: this was the first clear prospect we had enjoyed for two days, for it might in truth be said, that the closeness of the trees had properly speaking prevented our seeing the forest.

On reaching the valley, we observed a flock of macaws, which had alighted on the top of a high tree, but we could not succeed in shooting one. We soon after heard the cry of monkeys, and followed in the direction of the sound, which gradually grew more and more distant. In crossing the trunk of a slender tree, we observed a magnificent scarlet coral-serpent, gliding along so quickly that it was impossible to secure it. At last, after a stiff walk, we arrived at half-past two o'clock P.M., hot and tired, at the longed-for rivulet of Uassútingerété, where we learned, to our great regret, that Count Oriolla and the hunters had started for the chase only a quarter of an hour before; this news offered a poor prospect for dinner, which would be indefinitely delayed. The Padre however presently restored us to good humour; for on going to the brook to drink, he saw a large fish in the water, and was so lucky as to

strike it with the Doctor's facão. We were told that at a few hundred paces from this spot there was a large open space, where we should find a rancho, and crossing the brook we hastened thither to prepare our meal. In a few minutes a bright fire was blazing near the rancho, and we promptly suspended our *redës*, and rested in them complacently till the dinner was ready. The walk to the Anaurahy would have occupied still several hours, and considering the exhausted condition of the poor Doctor and our men, especially the sailors who were unused to such marches or to carrying burdens, I resolved to proceed no further, but to remain here for the night.

We all assembled again at dinner; the negro had piloted the Doctor successfully through the forest, and Count Oriolla had returned with his hunters from the chase. Though the Count had brought no game, he had much to tell of the sharp-sightedness, sense of locality, and swiftness of foot of his Indian companions, who had quite excited his admiration. Our dinner was enlivened by interesting conversation, while the "Tariéré-uassú"—the Padre's fish, which he had ordered the people to grill in the Indian fashion, by laying it on a stick across the fire—promised us an additional treat. We all sat in our hammocks around the fire: darkness however presently came on, and taking down the *redes* we prudently slung them under the roof of the rancho; whereupon the whole company soon dropped asleep, undisturbed by a little shower which fell during night.

December 5th.—Early this morning, after a refreshing

bath in the neighbouring stream, we started at half-past six o'clock. The ground we traversed was less hilly and undulating, and it was clear that we were again approaching the Xingú. A number of tall prostrate trees were lying about, upon which large columns of ants of all kinds moved busily to and fro. In penetrating into the depths of the primæval forest, one sees evidence at every step that these minute creatures are the destroyers of the colossal trees, whose strength braves all the attacks of storm and wind. A striking instance is this of how small are often the means which the Creator employs to produce the mightiest results, for what greater disproportion can be imagined than between an ant and one of these giants of the forest? No sooner is a tree attacked by them than it is doomed,—its size and strength are of no avail; and frequently these little insects will destroy it in such a manner that the bark alone remains, and all the woody fibres crumble away, until the tall tree falls at length to the ground with a tremendous crash, a prey to the united and persevering attacks of millions and millions of the ants. Beside these proofs of the destructive power of these insects, the forests along the Estrada exhibit evidence of their skill, in the pyramidical ant-hills, similar to those we had seen on the coast of the province of Rio de Janeiro. We also observed large trunks of trees pierced with deep holes, having the appearance of filigree on a grand scale: this too was probably the work of these destructive insects.

We now approached the termination of the Estrada, the

main direction of which is south-south-west. At starting I endeavoured to note down the bearings, and found that during the first hour the road from Tucuruí lay S. 40° W., then S. 20° W.; but the continual windings in the path made it afterwards impossible to note them accurately. The Indians could only tell us the names of eight of the numerous little streams which cross the Estrada, and all flow toward the Xingú: these were by no means the deepest, and some were at this time dried up; their names, beginning from the north, were as follows:—the Ygarapé Curuatéua, Azoutinge (or Uassú-tinga), Uiérena, das Caxoeiras (the sixth we crossed), Abintéua, Pocovasoroboca-uassú, Irema and Uassú-tingerété. These streams abound with fish, their water is cold and clear as crystal, and their beds sandy. The ground in the forest likewise appeared for the most part sandy, but swampy in the low hollows. The elevations that cross the Estrada from east to west are apparently only sand-hills, a few hundred feet high, and as little deserve the name of a "Serra," as the small spot (perhaps thirty feet square) at the outlet of the Estrada near the Anaurahy merits the high-sounding name of "Porto Grande."

Porto Grande was however the goal of our pedestrian excursion, and after walking for two or three hours we reached this lonely little place, the very picture of charming and peaceful seclusion. Under a tree which hung over the river, and formed a kind of frame to the picture, our view rested upon the surface of the clear Anaurahy,—here scarcely a hundred paces wide—the opposite shore of which exhibited a high wall of forest, rendered

almost impervious by the tangled creepers and thick masses of foliage, from the midst of which a few species of tropical grasses bent gracefully forward. One of our sailors, the mulatto Furtoso, climbed into the branches of a tree that overhung the water, and angled with considerable success.

Our fires were meanwhile kindled, and strings of lianes stretched from tree to tree, to dry our clothes upon, which a passing shower had wetted. We had plenty of time to accomplish all this at our leisure, as the "Ubás," which were to convey us to the nearest "Maloca" of the Jurúnas, had not yet arrived; though, according to the convention made with this tribe, two of these vessels ought always to be at this spot. At length three ubás made their appearance, and at two o'clock P.M. we started. These ubás, in which we were to pass the next three weeks, are constructed, like the canoes of the negroes at Rio, of the trunks of large trees hollowed out, but differ from the latter in having less gunwale,—being more flat above. The stern and bow both terminate in a straight, flattened, projecting beak, like the boats on our rivers; and the ubás are propelled by *pagaies*, like the Igarité, or by poles cut in the forest: in paddling the crew sit facing the bow. The Ubá is not made for sailing, and, strange to say, the people of this country, which is so rich in wood, have not the slightest idea of a board or plank: the benches consist of a number of sticks laid close together on the gunwale, or wedged in between the sides of the boat. For some hours the first day we found this seat very incommodi-

ous; our feet too were constantly in the water that collected at the bottom of the boat. We therefore laid our heads together, to contrive a means of remedying this evil, and succeeded in some measure in forming a kind of grating, by placing sticks lengthwise across those fixed from side to side. With the aid of our ponchos and small bundles, laid on this grating, we made our seats comfortable, divesting them of their resemblance to the *Latten**, of which they at first feelingly reminded us. We distributed ourselves among the three ubás, two of our party in each boat,—Count Bismark and I in the first, Count Oriolla and the Padre in the second, and the Consul and Doctor in the third. We rapidly descended the narrow Anaurahy in a south-east direction, passing under numerous masses of creepers, which hung down on each side close to the water's edge. In a few minutes we entered a side branch of the Xingú, on the left, about a hundred and fifty paces wide and flowing E. by S. As we advanced, the surrounding vegetation grew more luxuriant, and the magnificence and gracefulness of the creepers and climbing plants surpassed all description. Under the shade of the thick masses of foliage, and the overhanging lianes, small groups of palms, of five or six different kinds, appeared here and there, placed as it were in dark niches or recesses: their slender stems seemed near the ground to form one single trunk, and their leaves or fronds dividing gracefully on the summit were apparently united in one broad crown. Such groups of palms were continually seen bending

[* A military punishment, now abolished.]

over the river from each projecting point, yet presenting to the eye a perpetually varying aspect,—arranged, one might imagine, with a taste and judgement that would have done honour to the most accomplished landscape-gardener.

As we sat absorbed in admiring the luxuriance of vegetation around us, our thoughts were suddenly called off to the animal world. "Jacaré! Jacaré!" exclaimed our Indian hunter, standing at the bow of the ubá, and pointing to a place in the water, where he had just seen a cayman or alligator dive under the surface: our unpractised eyes however could discover no trace of the creature. A few birds occasionally flew over our heads, and we now put our fowling-pieces in order, which seemed greatly to amuse the Indian hunter, who had a passion for the chase: he was eagerly on the alert, watching on every side, and drawing our attention to all the objects that we passed. How great was our joy when he pointed out, on the shore of one of the islands, the first trace of a tapir or anta!

Paddling along in the dark, under the branches which formed a low roof of foliage, we noticed immense numbers of a large species of bat, and presently came to what appeared to be a bifurcation in the river; we however soon saw that this was occasioned by a small island, round which the stream flowed, reducing its width from a hundred to twenty or thirty paces. As we were working hard to stem the increased force of the current, winding our course through the thicket, which rose from out of the water and crossing the channel excluded all

prospect before us, the Indian hunter descried a fish of large size. Count Bismark fired and wounded it, and after a brisk pursuit the Indians succeeded in capturing the prey. This chase brought us rapidly out of the narrow channel, and at once the wide expanse of the main-stream of the Xingú lay in all its majesty before us. Flowing from W. by S., it here forms a great bend in the direction of S.E.; in a word, we had now reached the chief turning-point of its course, where, after shortly before leaving its main direction, S.N., and then turning for a little distance eastward, it now flows in a south-east direction, here commencing the above-mentioned large bend of the Cataracts.

Casting a glance down the mighty stream toward the south-east, an immense expanse of water, from a mile to a mile and half (four to six English miles) in breadth, lay before us, bounded by a line of wooded islets, behind which the outlines of the blue hills appeared faintly traced against the horizon. These elevated tracts occasion the rapids and cataracts of the Xingú, and, notwithstanding their inconsiderable height, they force this enormous mass of waters, flowing with the rapidity of an arrow, out of its straight course. On a nearer approach, the islands are seen to lie in several successive rows. In the first line the island of Murissitiha is distinguished by a solitary, gigantic tree standing in the centre of it, and towering above the tops of all the others. Close to the right of Murissitiha lies a second wooded island of greater extent, at the south point of which we observed, high up in the thick wall of foliage, a round hole, looking

as if made by human hands, through which was seen the blue sky. Between these two islands and the main-land of the right bank extended a second range of numerous small islands.

Often did we look back upon this magnificent picture, as we rowed up the stream; for the prospect before us was comparatively uninteresting: the river is not more than from fifteen hundred to two thousand paces broad, and much less studded with islands. Its shores are here steep and wooded, though seldom higher than one to two hundred feet. As we were rowing along the left bank, we observed the Padre's boat standing in for the shore, and presently stop. We quickly rowed up to it, and were now gratified for the first time with a sight of some monkeys. Three months had we passed in Brazil without having seen one of these animals,—a sight which we had witnessed the second day of our visit to Gibraltar: however we were the more delighted at our present good-luck, watching the gambols of the large dark-brown guaríbas, as they leaped from branch to branch. Eager for the chase, we climbed the steep bank, seizing hold of the roots of an immense fallen tree, and cutting our way with the facões: but our efforts were all in vain, for the guaríbas fled on our approach, and did not re-appear until we had returned to the boats and they were out of reach of our guns.

The sun in a short time descended below the horizon, shedding a rosy glow of light over the stream: darkness almost instantly succeeded; and at six o'clock P.M. we doubled the sharp turn in the Xingú before mentioned,

and now steered southward against the stream. Knowing that the Maloca could not be at any great distance, we sent a boat on in advance to acquaint the Jurúnas with our purposed visit. The two other ubás kept together, and we lustily struck up a song, which however the Padre soon silenced, observing that our noise might alarm the timid Indians, and make them take to flight. We now approached the left bank, lay-to at seven o'clock among some other canoes, and went on shore.

It was perfectly dark. All at once we observed torches coming toward us along the bank of the river, and soon discerned dimly the figures of some men, who lighted us up the steep and slippery bank, about twenty to thirty feet high. They led us to a hut, of which we could barely distinguish the rounded outline. We entered, preceded by the Padre, who was the only one of the party known to the inhabitants: a group of dark-coloured, friendly-looking people, men, women, and children, stood before us, while the light of a blazing fire on the ground was reflected strongly on their figures, and displayed in their midst a thick-set man of somewhat advanced age, drest in a pair of breeches, with a shirt hanging over them, like a blouse, who received the Padre in a most friendly manner. The whole group of Indians seemed equally pleased, and extending their right hand bade us welcome: at first the good people seemed a little embarrassed, but this feeling wore off in a few minutes.

The Padre now introduced us one after another, myself as a "Tuxáva,"—a chief coming from a long way

off, beyond the great water. As soon as he had ended speaking, they all came up to me, one by one, holding out their right hand, and nodding at the same time with a friendly expression. The children were then brought out from every corner of the cabin, to be introduced to us,—a ceremony which was performed to each in turn. Until all this was concluded, we were not properly received, nor at liberty to fetch our baggage from the ubá and deposit it in the hut where we were to pass the night. We now took our seats around the fire on some small wooden stools, and the Indians presently brought some broiled fish and "bananas da terra" as a present to the Padre, which, together with Count Bismark's fish, furnished an excellent supper: we roasted the bananas, though, with a hungry appetite, this species is palatable in a raw state.

By degrees more Indians assembled from the neighbouring huts, who welcomed us in the same cordial manner. It may easily be imagined that we had a strange feeling at finding ourselves transported into the midst of such different scenes of life, amongst these simple Indians, who in their natural, unaffected manner manifested so much good-nature and desire to please;—and these are the so-called savages! surely we little expected such manners or such a reception, for there was not a trace in their features of savage character, nor did they resemble the shy and stupid Puris and Coroados in the forests of the Parahyba do Sul. Although the manners of the Jurúnas bespoke the greatest simplicity, it was easily seen in their countenances

that they were on a higher grade of intelligence than the savage tribes of southern Brazil.

We remained nearly an hour round the fire, to have time to observe the Indians at our leisure. The men were strongly built and well-formed, and the women, who wore a kind of apron, were in general prettier than those of the Puris and Coroados, among whom indeed we had seen only one pretty girl, at Aldea da Pedra. The women left the hutt, one after another, and were followed by their husbands; but the dogs, those favourites of the Indians, were not so willing to quit the fire. João, the old man in the breeches, gave up the cabin to us, in the absence of the chieftain, and took the inhabitants to his own hut, the Indian women being afraid to sleep under the same roof with our party. Count Oriolla alone left us, and followed João; but we hung our *redes* to the posts of the hut, wherever we could find room, for the Jurúnas had not removed their hammocks. In spite of the strangeness of the place, and the glimmering fire, our fatigue after the journey of the last few days overpowered us, and we soon fell asleep.

December 6th.—Early this morning I repaired to the small open space in front of our hut: close by, on the right, the bank descended steeply to the river; while another cabin similar to ours stood opposite, and between the two was built an open, square, clay shed, its roof terminating in a gable surmounted by a cross. This last was a chapel, which the Padre had begun, but not yet finished: its bare walls on this occasion served

as night-quarters to the Indians and sailors of our party. The chapel, which in its present state resembled a barn, faces the Xingú, and before it, upon an embankment near the river's edge, stands a wooden cross,—a significant sign for this last outpost of Christianity against the heathen inhabitants of these boundless forests and wild regions. In the middle of the last century the Jesuits established a missionary-station on this spot, which, by the construction of the Estrada at the same time, was brought into closer connexion with Souzel: the new place was called Tavaquára or Tauaquéra. This establishment however was of short duration: the last follower of Loyola who was stationed here, to promote the conversion of the heathen Jurúnas, not only lost the confidence of the Indians by his bad conduct—which ill agreed with his zeal in the cause of proselytism—but exasperated them to such a degree that they murdered him. Almost a century passed ere the light of Christianity penetrated into the country beyond the cataracts, until two years ago our friend Padre Torquato visited these parts, and on the 1st of November, 1841, planted the cross a second time at Tavaquára, and gave to the new settlement the name of "Missão da Imperatrix." His friendly and conciliating manner, together with the rich presents of earthenware vessels, glass, beads, tools, etc. which he made to the Jurúnas who occasionally visited Souzel, soon attracted others of the tribe, and the Padre succeeded in gaining their confidence, and baptized a large number. Although he had in this manner become known to many of the Indians, he

deemed it prudent to have a strong escort in passing the Estrada, on paying his first visit to Tavaquára, where he collected around him about three hundred Jurúnas, forty of whom he baptized. Thus was the work of conversion commenced.

From the foot of the cross there is an extensive view up the Xingú, while the eye follows the river's course down to the commencement of the great eastern bend. The left bank is everywhere precipitous, while near the right bank lie several wooded islands, succeeding one another so closely that their dark-green masses of foliage appear to be connected with the forests of the mainland.

Notwithstanding the early hour, all was astir on the small plot beside the cross and the chapel,—the only open space, a few feet broad, between the river and forest. The men were standing before the hut, with their bows and arrows, while the women were occupied in combing their husbands' long raven-black hair, and anointing it as well as their whole body with palm-oil, which is kept for this purpose in a pretty, round calabash. Other Indian women, at the Padre's desire, were weeding the small space in front of the chapel, where the grass shot up as luxuriantly as the neglected plantations of mandioca and bananas, which surrounded the huts to the extent of a few feet.

We betook ourselves to the river, and bathed in the clear waters of the Xingú, in spite of the biting "piranhas," against which the Indians earnestly warned us; they are said to abound here, but none of our party

was troubled by them. Meanwhile the whole population of Tavaquára,—men, women and children,—collected on the bank of the river, to see the white people bathe, who in their state of nudity seemed to be less strangers to the happy condition of their own savage life. After our bath we breakfasted. In consequence of a sore foot, I was prevented accompanying a party to one of the neighbouring islands, where the Counts Oriolla and Bismark were in hopes of meeting with tapirs and tigers. Although I had little faith in these anticipations, still I regretted being unable to join the excursion. To compensate for this disappointment, I accompanied the Padre and an Indian, armed with bow and arrows, into the adjacent forest; but even this pleasure I was soon obliged to relinquish, and now confined my observation to the interior of our hut and its inhabitants.

The ground-plan of the huts of the Jurúnas, in which great order seems to prevail, forms an oblong square, rounded at the smaller sides, and about twenty to thirty feet long. Above this rises a slight frame made of poles, similar to an arbour, which is supported and strengthened withinside by other shorter poles. At the point where the lateral poles unite and form the roof—at about twenty feet from the ground—stand the chief props, few in number, in order not to lessen the room in the hut. Some of the side poles are also supported in the middle, and again at about five feet from the floor. The first-mentioned props, which protect the side poles in the middle, are connected above by a cross-pole, extending the whole length of the hut from one wall to the

other. On these cross-poles rest a number of others with sticks placed lengthwise, so as to form a kind of loft, where stores of every description are kept. Here were collected baskets for mandioca, heaps of cotton, large vessels (mostly calabashes), bundles of reeds for making arrows, etc. At five feet from the ground are other cross-poles, over which the Jurúnas place smaller ones lengthwise, forming a shelf or table, intended to receive various utensils, cujas, baskets, vessels for palm-oil, etc., and on which lie their weapons, bows and arrows. Some musical instruments hung around, and a few red macaws' feathers, the favourite ornament of the men, were stuck into the wall.

The walls of the hut are constructed by connecting the side poles which form the roof with others running horizontally round the hut, from the ground to the gable, at intervals of two feet. To this framework of poles and sticks, fastened together by lianes, are attached on the outside layers of palm-leaves, which afford a good protection against the rain. These walls have the advantage of being easily pierced with a piece of wood, enabling the people to hang up anything out of the dirt: a window might be made with equal facility. The two entrances on the smaller sides of the hut are the only openings, and a perpetual state of semi-darkness prevails in these dwellings; there is moreover neither chimney nor hearth, but this is no impediment to cooking, the means of effecting which are very simple. Near the fire lie some large stones, and, when required, a hearth is formed with these. Between the posts are

suspended, without any order, the cotton hammocks, which serve the purpose of seats as well as beds, and are hung so low, that, in sitting, a person's feet touch the ground. Beside the *redes* and the lofts or shelves above mentioned, some low stools made of a single piece of wood constitute the only furniture in the apartment. All the huts we visited of this tribe of Indians, who, next to the Mundrucús and Mauhés, are considered the most civilized and industrious in the province of Pará, were constructed and furnished in a similar manner. Though the sight of naked men produces at first a strange impression, this in a degree soon wears off, especially among people of colour: in fact we whites seemed to ourselves much more naked when bathing than the Indians.

The Jurúnas are of a middle size, and though their legs are somewhat short in proportion to the rest of the body, and in most of them the abdomen protrudes a little, they are, as we have observed, strong and well-made; their movements and attitudes are noble and graceful, while their whole bearing bespeaks true manliness, and their strong figures the absence of all effeminacy: in feature they are distinguished from the other Indians we had seen by a somewhat arched nose. Generally speaking their manners are pleasing, with an air of openness and good-nature, which is seen in their friendly looks, unmingled with any trait of a savage character. Their jet-black hair, falling over the shoulders, gives them a curious appearance, contrasting strongly but agreeably with their glossy, dark skin. Although their hair is generally loose and flowing, they sometimes in

travelling tie it up, or make it into long tails. The men for the most part have no beards, as they pluck out all the hairs, the "Pagés" (conjurors and physicians) being the only exception, and these have but slight traces of a beard. The women go so far as to pluck out their eyebrows and eyelashes.

It is strange that, with all the attention these Indians bestow on their hair, they seldom wear any kind of headdress. We saw at Tavaquára only one Indian with an ornament of this kind,—a wreath of green parrots' feathers in his hair, which gave him a more savage and strange appearance. The men however frequently wear a red macaw's feather stuck behind the ear, or a thin reed at the end of which is fixed the tooth of a slain enemy. They also wear strings of blue or black glass-beads round their necks, and great numbers round their waists, forming a kind of belt from three to four inches broad. Round the upper part of the arm and ankle they tie a close-fitting band of red cotton, having the appearance of Russia leather: this is of great value, being often the gift of a sweetheart.

When a Jurúna wishes to marry a girl, he addresses himself to her father, as neither she nor the mother have any voice in the matter. Before the father gives his consent, he requires proofs of the suitor's skill and courage,—such as, in shooting a jaguar or tapir with his bow, or producing as a trophy the tooth of some enemy he has slain. At other times still more arduous tests of skill are demanded; for instance, when the cross was erected at Tavaquára, the old Indian took a

fancy into his head to require from his daughter's suitor that during the dance he should make a cigar and present it to him! The young Jurúna began the dance with great sang-froid, luckily observing a tobacco-plant growing close by, which had escaped the old man's notice; during the dance he flung his arms about in the manner of the conjurors (for he had probably represented himself as a Pagé), and approaching the plant plucked a leaf; then twisting it into a cigar he presented it to the old man, who no longer hesitated to give him his daughter, and Padre Torquato married them on the spot. Chieftains and Pagés are the only exception to this rule, as every father considers himself fortunate to have so distinguished a suitor for his daughter's hand; and, while the Jurúnas are in general satisfied with one wife, the "Tuxáva" has usually several.

Among the inhabitants of Tavaquára only one young Jurúna was tattoed, who looked just as if he had on a pair of open-worked mittens; his legs also were painted, and seemed as if cased in stockings of a similar kind, reaching to the knee. The women wear a kind of apron or *tanga*, checkered grey and brown, something like a Scotch kilt, which they contrive to fasten round their waists without either tying or pinning. They make this apron of coloured cotton, on a kind of embroidery-frame: young girls, who are not of age, go naked. The Indian ladies are loaded with necklaces, and if they cannot procure glass-beads, they are content with strings of seeds instead, of a grey colour and the size of a pea; or they string together nutshells, to which they ascribe medicinal

properties. They likewise wear broad armlets, made of black wood, and the same cotton bands on their arms and ankles as the men: the hair is worn like that of the men, but they never ornament it with feathers. They seem to take greater pleasure in adorning their little children than themselves, decking them out with a profusion of beads and finery.

Beside the two huts and the chapel, there was another cabin on the bank of the river, a little concealed from view, and close by a *rancho*. Three deaths had recently taken place in this hut, at short intervals, and the inhabitants, either considering it unhealthy or from motives of superstition, had abandoned it. In the middle of the hut were three graves, and as we entered, it was dark and gloomy, the sun being hidden by the rising clouds. The mode of burial among the Jurúnas, Padre Torquato told us, is very simple: the dead body is wrapt up in the *rede* and placed upon a mat, made of palm-leaves (*tupé*): a second mat is then covered over it, the grave is filled up with earth (which must be fetched from the depths of the forest), and a third *tupé* is finally laid over the whole. Upon a man's grave are laid his bow and arrows, and paddle; while at the interment of a woman, all that she possessed is thrown into the river. Some time after burial, when only the bones remain, these are taken by the relatives out of the earth, and hung up in a mat or basket under the roof of the hut. Thus in every dwelling of the Jurúnas (except the deserted one just mentioned) we found the bones of the dead preserved in the abodes of the living. During the first twelvemonth

the survivors go every morning and evening to the grave, to weep and wail; and it is the first duty of any member of the family, who has been absent, on his return to the village to begin a lamentation for the dead.

The rancho was inhabited by several families, who had come from a great way off: they seemed to have taken up their abode here, and had brought with them various utensils. A pretty little bow, belonging to a boy, caught my eye, and I asked him to give me a proof of his skill in shooting; perhaps from a feeling of over-eagerness, he missed the mark, which seemed to annoy him greatly; but he was still more vexed when I desired to purchase the bow. His mother eyed the glittering beads which I offered in exchange,—they were too tempting, and she used all her persuasion to induce her little boy to consent to the sacrifice, representing to him what a treasure the beads would prove. At last the lad yielded, with a heavy heart, and obeying his mother's sapient advice handed me the bow.

We now returned to our hut, where dinner was prepared, and presently the two Counts arrived, wet to the skin, and without having seen a wild-beast of any kind. Our roast-meat consisted of guaríbà, cooked *à l'Indienne* on a stick over the fire: it tasted something like a hare, but was rather tough. Count Oriolla also contributed a "Mutúm" (Curasow), a large brown bird he had shot, which proved excellent.

After dinner we had a specimen of Indian medical skill, which excited our laughter: the negro had during the journey got a thorn into his foot, which swelled, and

he was in consequence lodged in the little unfinished chapel. The Pagé of Tavaquára, distinguished by his diminutive figure, aged appearance and moustachios, now came up to the negro, and putting on a solemn look, as much as to say, "Let me alone, this is a trifle for me," he blew several times upon the foot, passed his hand over it, and presently exhibited to the spectators a thorn, which he pretended to have extracted. The negro evidently put full faith in his words, notwithstanding that, on setting his foot upon the ground, it still pained him. The conjuror afterwards undertook a similar cure of another person, again exhibiting the same thorn in proof of his skill. Nevertheless the bystanders appeared lost in amazement.

The Indians who inhabited our hut now took their dinner: it was a curious scene, not easily to be forgotten, and one which I should like to have sketched. A handsome young man was lying in his *rede*, and bending gracefully down received his food from a calabash held by his wife, who knelt before him. It was a fine picture of the domestic peace and happiness so commonly found among these children of the forest. The wife is almost inseparable from her husband, accompanying him to the chase, or to fish, and even on his warlike expeditions; or if he prefers to go alone on these occasions, she occupies herself at home with weaving cotton *redes* or aprons, working at the *roça*, or preparing her husband's meals. After dinner she always brings him water to rinse his mouth. Beside the attention they bestow on their children, the women take great interest

in the education of young puppies, which are great favourites with them. They carry these about in their bosoms, tied up in a cloth, and we have even seen women frequently suckle them.

The laziness of the men at home forms a contrast to the industrious habits of the women: a Jurúna sits or lies in his hammock at his ease, pointing arrows or weaving a basket. His favourite amusement seems to be smoking, and he seldom lets his cigar go out: although he has several musical instruments, he scarcely ever plays on them. We have not witnessed the manufacture of bows and paddles, or the construction of canoes; this work is probably carried on out of doors.

The afternoon was spent in bartering various articles with the Indians, and towards evening our other canoes arrived, with Senhor Roxa and the baskets of farinha, so that we could now arrange to depart on the following morning. Presently we heard that the Tuxáva or chieftain was coming, and repairing to the open space before the hut we saw a number of people assembled. It was a fine evening, and the setting sun shed a ruddy glow over the sky and the waters of the Xingú. A handsome young Indian stood leaning against the cross, and gazing on the majestic stream and the immense forests; while all the bystanders hastened to the bank of the river, some scrambling down the steep cliff with remarkable agility, to watch for the canoe in which the Tuxáva and his young wife were returning from Souzel.

In a few minutes the chieftain, with his bow and arrows, came up to us, and extending his right hand to

each in turn, gave us a friendly welcome. Jozé Antonio Bitancourt was a handsome man, of a strong and symmetrical frame, his noble figure and dark complexion set off to advantage by the broad blue belt of beads. There was an expression of caution, rather perhaps of cunning, in his look. The youngest of his wives, who accompanied him, was more delicately formed than the other Indian women, and her features were handsomer. Not only was he the chief over the six or eight families, with a population of forty to sixty persons, who resided at the settlement of Tavaquára, but in addition to this he had put forward his pretensions, supported by the Brazilian Government, to the dignity of Cazique of all the Jurúnas. Beside the chieftain over each settlement, this tribe has been accustomed to acknowledge a general head, to whom they all render homage, and whose office is hereditary. The last of these Caziques left behind him a son, who was a minor, and in consequence several attempts had been made to supersede him. The Brazilian Government, taking advantage of this circumstance, had nominated the Tuxáva of Tavaquára as their candidate to succeed to the dignity of Chief of all the Jurúnas, and, with a view to strengthen his position among his own tribe, had desired Padre Torquato to summon a meeting of the Jurúnas at Tavaquára, at which Jozé Antonio Bitancourt was elected chief. The pretender however did not acquire much influence among the people; the son of the last "Tuxáva principal," now eighteen years of age, was a general favourite with the Jurúnas, and they would much have preferred see-

ing him occupy his rightful position; this led, if not to an actual feeling of ill-will, to a coolness and indifference toward the usurper, an instance of which we had soon occasion to observe; he offered to accompany us the next morning up the Xingú to the other Molocas, and the Padre determined to take this opportunity of presenting him to the tribes residing there.

Judging from the influence possessed by the Tuxávas of the single settlements, the common chief cannot exercise any great authority. The Tuxáva is looked up to by all the members of the Moloca, as their acting representative in all negotiations with the whites or other tribes. Thus far he enjoys the general confidence, but he is not allowed to interfere in matters of domestic life, which are all under the control of the father of the family. Nor is the Tuxáva the recognized chief in war: if a war or an invasion of another settlement be resolved upon, a Pagé is consulted as to the best manner of conducting it. The latter then takes upon himself all the preliminary command, and leads the warriors to the spot which he thinks fittest for the field of battle: but here his authority ends; every one fights for himself, without thought or regard for the rest,—his object is simply to slay an enemy, and when he has accomplished this he returns home.

The Jurúnas, like many other Indians, generally pass a part of the year in wars with single families of other tribes, carrying off their sons: for such invasions, in which several Molocas unite, an occasion is never wanting, as the barter between the neighbouring tribes affords

a ready cause of misunderstanding and strife. The Jurúnas told us that the last battle had taken place thirteen months before, on a small island in the Xingú: some Taconhapéz Indians were suspected of having stolen a ubá, and this led to a fight, in which the Jurúnas were victorious and ten Taconhapéz slain.

We now return to the Tuxáva Bitancourt, who, as is often the case, united in his own person the offices of Chieftain and Pagé: he had been absent a week from the Moloca. When the new-comers had saluted the Padre, they entered the hut, and all sat down close together in a circle, with a number of women, upon small footstools; then they commenced the usual lamentation, for a nephew of the Tuxáva, a child who had died three or four months before, and was buried in the opposite hut. There they sat howling and sobbing, and some of the women pressing their eyes to squeeze out tears; when any one of them was fatigued, she beckoned to another, who took her place in the circle, handing to her the child or little puppy which she was carrying. These lamentations lasted for at least half an hour: after awhile however the group of mourners showed signs of uneasiness, and shifted their quarters from the corner more into the middle of the apartment, nearer to the fire, the warmth of which seemed to be welcome as night set in.

When the lamentation was at last ended, the Padre at our desire made a request for a general dance, and desired the Tuxáva to set about the necessary arrangements. Two or three large fires were lighted in front of the hut, around which all the population of Tavaquára

readily assembled at the summons of the chieftain. He himself made his appearance drest in a blue shirt, and blue cloth trowsers with a stripe of gold lace, and wearing a cap of similar material, with his hair tied up in the fashion of the ladies. But handsome as he had looked when naked, this costume—which by the way was a present from the Padre—gave him quite an ordinary appearance. His wives seemed to be of the same opinion, and it was probably at their suggestion that the chieftain soon divested himself of the burden of his clothes, only retaining the cap, on which he prided himself greatly.

It was a beautiful evening, and the stars shone brightly: the light of the fires was thrown strongly upon the surrounding dark-coloured figures, and the huts and lofty trees behind the dwelling; nay even the stream was illumined. While the preparations were in progress, we supped off a "Quati"—an animal from the forest. At last, after a long delay, three women stepped out of the group of Indians, threw their arms around each other, and keeping time to a song, first advanced and then retired four steps. A little deaf and dumb boy kept pulling at the apron of his mother who was dancing, until she took him up in her arms, which she did without getting out of time or step. I had sketched this boy at his own desire that morning, but the young fellow from a feeling of shame kept his hands before his face, and I could only catch the reverse of the picture. Soon after three more women joined in the dance, and these two parties now moved round each other, alternately advancing and retreating four steps as before, and introducing

as many changes into the figure as the narrow space between the fires would admit.

I had been told that it was a peculiarity of these Indians that the men never joined in the dances of the women, but only danced by themselves at certain solemn drinking-bouts. On this occasion however two men took part, joining in turn the two groups, or dancing between them arm-in-arm. "One of these Jurúnas was the Indian with the tattooed gloves and stockings, carrying a long stick in his hand as a lance; the other, who flourished his facão wildly in the air, was our friend with the wreath of green parrots' feathers. The dancers now formed new divisions, of two and two, the men always remaining together: the time became quicker and the song louder, but in the midst of the confusion the measured step was kept throughout. The burden of the song, we were told, expressed their joy that the "Pai," or father, had come to visit them, and had brought such "good people" with him. At last strength and breath could hold out no longer, for they had not rested a moment. Thus ended this *impromptu* dance, and we were presently resting quietly in our hammocks, which hung beside those of the Jurúnas, whose wives did not this night fly from the hut*.

December 7th.—As our "esquadrilla" of four ubás

* In addition to what I have previously observed, I would here add, that according to Spix and Martius (vol. 3, page 1050), it was a German Jesuit missionary who first settled among the Taconhapéz and Jurúnas, at "Tucuana above the Turicury" (Tucuruí), a place which, according to the older maps, was situated just below the last cataract.

left the landing-place, at half-past seven o'clock A.M., our dark-coloured friends stood on the bank of the river, watching us for a long time as we rowed up the stream, though none had come to take leave of us; this custom, I am inclined to think, is unknown to them. Beside the Tuxáva, the man with the green parrots' feathers and his wife accompanied us,—all three seated in the largest and longest of the ubás, which contained also the Padre and his servant, Count Oriolla, a steersman and three rowers,—altogether ten persons. Count Bismark and myself occupied a light ubá, with a pilot, and a mixed crew of four men, sailors and Indians, who accompanied the Padre from Souzel and Tucuruí. In the third canoe, which was so small as hardly to allow a person to move, sat the Consul and the Doctor, with the same number of men. The fourth ubá was provided with a *tolda*, or slight awning of palm-leaves, under which was stowed the baggage and we intended to put any purchases we might make on our way. Senhor Roxa had the charge of these things, and, including himself and the four men in his boat, our expedition numbered eight-and-twenty persons.

The large ubá presented a strange appearance, containing a mixed crew, male and female, dark-skinned and whites, and freighted with our provisions, including two large baskets full of farinha. The Indian with the wreath of feathers propelled the boat with a long pole and paddle;—now he stepped to the very edge of the bow thrusting his oar into the green waters of the Xingú, and bearing upon it with all his strength; again he stepped

back, fixing his foot firmly against the boat as if he were going to sink it; then suddenly starting up, he drew the oar out of the water, and repeated the operation, at the same time shaking his long black hair, as a lion does his mane: there was surprizing beauty as well as power in all his movements. Artists ought to visit these regions: the sight of such fine manly forms and attitudes calls to mind the statues of the antique; for among these people the free development of the powers and form of the body is unimpeded by dress or effeminacy; all is nature, and affectation is unknown in attitude or movement.

After proceeding for half an hour, we reached a reef of rocks, crossing the stream from the left bank to Capaú, the nearest of a series of islands. Numerous blocks of water-worn conglomerate, similar to those at Souzel, rise above the surface of the Xingú, forming, our pilot told us, a considerable rapid or caxoeira at high-water. The island of Capaú is flat and thickly wooded, and the left bank of the river appeared still a little elevated, though the forest upon it was not high. After passing this reef, we turned round and gazed once more on the wooded banks of Tavaquára, and a chain of hills beyond, covered with forest, called the "Serra Arapuja." We proceeded thus for an hour, when we observed a quantity of bushes, growing in the middle of the stream, similar to those on the Parahyba, partly upon rocks and partly rising from the water as if rooted at the bottom of the river. As the other boats were far behind, we had time to step on shore for a few minutes, to ob-

serve more closely the rocks we had seen in small, single masses along the shore. While our men were busy cutting poles and sticks, we looked about us, and inspected a mass of schistose granite; the beach which skirted the forest was covered with a loose conglomerate of quartz-pebbles and sand. We presently got into our boats again and pushed off.

The forest on the left bank was now of greater height and much more beautiful, although entirely devoid of that ornament the palm, which we nowhere saw in this day's voyage. Wooded islands succeeded one another closely, and we proceeded for some time along the shores of one upon our left, the island of Arasátir, from the centre of which rose a group of forest-trees, their tops forming a single vaulted roof of foliage, bent nearly to the water's edge by the large, heavy masses of climbing plants. And how beautiful are those dark shadows, under masses of foliage of the most varied green tints!

Looking up the stream, on the right bank, we observed between these islands the misty outlines of the Serra Iruitira, as it was called by the pilot, who was never at a loss for a name. These names sounded at times very questionable, for the Indians seem to be perfectly careless in such matters, and in more than one instance a spot was called by two quite different names. The channels between the islands became gradually narrower, and we noticed a larger number of shrubs, raising their branches above the surface of the water. The swiftened stream, which was now a continuous rapid, was passed

soon after ten o'clock A.M. On looking back we saw the river crossed by such a long line of small masses of rock, with shrubs growing between them, stretching from the left bank toward the islands, that it seemed surprizing how we could have steered through this maze, which, although at only a short distance, now entirely concealed the river from our sight.

It was a fine day, but the heat gradually became so oppressive that we halted again under the shade of the overhanging creepers, to let the men rest until the other ubás should come up. We had our guns loaded all the morning, but shot nothing. Every now and then taking aim at some macaw, we stood watching impatiently till it should fly within reach, and unwilling to throw away powder and shot; but our patience at last gave way, and as soon as a macaw flew overhead, however high, the guns went off as of themselves. Our eagerness being damped by this ill-success, we now surrendered our guns to the Indians, to keep them in good humour, and allowed them to try their luck. Forgetting at once all fatigue, they leaped on shore, and were soon lost in the thicket. For a time there was silence; suddenly the report of a gun was heard, and—the macaw flew away unhurt close over our heads!

The other boats at length arrived; our companions had also wasted a quantity of powder and shot in vainly firing at these birds. The Indians now returned, and climbed back into the ubá by the aid of a large branch stretching over the river, and we were soon in advance of the other boats. Cautiously avoiding the middle of the

stream, where the current is strongest, we kept as much as possible in the side-channels separated from the main-stream by a number of islands, which shut out any open prospect, and made it difficult to form any general idea of the course of the Xingú: it was not until our return, when we kept to the middle of the stream, that we could ascertain this satisfactorily. I shall therefore reserve any remarks on this subject till we come to our descent of the river.

Winding our way among the numerous islands, we had from time to time many interesting views, through the openings between these channels, of the most luxuriant vegetation and magnificent trees. What would an Englishman give to transplant a small slice of this natural garden of South America, and attach it as a noble park to his country-mansion! the only thing required to give it the greatest beauty and interest would be, to make roads and walks, and abstain from any caprices of artificial culture.

Soon after one o'clock we saw before us a channel between two wooded hills, from which the Xingú seemed to rush with greater force: at first I mistook it for a kind of strait, but soon discovered that the height on the left was merely an island. At the same time we heard the distant sound of falling waters, and fancied we were approaching a cataract; until on coming nearer, it proved to be only a strong rapid, called a "Caxoeira," or waterfall. The Xingú here flows between shelfy masses of ochreous conglomerate, on which rested gneiss, or granite resembling gneiss. Our crew leaped into the

water, and with their arms and shoulders pushed the ubâ against the stream, selecting those channels between blocks and shelves in which there was sufficient depth for the boat. It was quite a picture to see these naked Indians, stemming the foaming current of the river, and forcing the canoe through the rushing water and the waves which it forms in falling over the rocks. They moved with surprizing security in the torrent and over the slippery rocky bottom, and sometimes losing their footing were obliged to swim till they regained a rock.

After toiling thus for half an hour, we reached the head of the Caxoeira, and securing our boat between the rocks, sat awaiting the other ubás on a flat shelf, while our crew went to assist the rest. An extensive view lay before us,—beyond the rapids, a wide sheet of water, margined all round with high forest, above which rose wooded heights at various distances. The Xingú flows S.S.W. toward this basin, and taking a north direction at the rapids, forms a large expanse or bay on the left side toward the N.W. A line of bushes, intermingled with numerous small blocks, marks the direction of the Caxoeira, which crosses the mighty river diagonally; and higher up the stream, at a considerable distance, rises a blue range of hills.

When all the boats were again assembled, we sent some Indians on before in a light canoe, armed with bows and arrows, to fish; the rest of our little squadron followed leisurely, in an oppressive heat, and crossing the basin attempted to regain the left bank of the river;

but the strong counter-current exhausted the strength of our crew, who were already greatly fatigued. At the head of this basin, above the Caxoeira, we observed several islands covered with bushes, one of which lay at some distance up the stream, isolated from the rest, and only separated from the left bank by a narrow channel. This is the deserted island of the Taconhapéz, a tribe of Indians who had some time previously taken possession of this spot, and formed a *roça* on the opposite bank: it was a good halting-place, and we stopped here at four o'clock in the afternoon.

In Pará the story goes that the Taconhapéz are a tribe of white Indians: they are said to be really of a lighter colour than other Indians, with occasionally fair hair and blue eyes,—a fact simply accounted for, as Padre Torquato observed, by the circumstance that they are descended from runaway Spaniards and Portuguese and Indian women*. At the present time they are on a lower grade of civilization than the neighbouring tribes; their weapons are formed with less skill, they live in mere ranchos, continually shift their abodes, and are sometimes friendly and at others hostile to the Jurúnas: they are also said to be of a shorter stature and weaker frame.

A small, unfrequented path led from our shady halting-place on the river's bank, to the forest, and over some felled trees to the roça, which chiefly consisted of plantains. The easy conscience of the Indians in all

* Von Martius observes (vol. 3, page 1047) that they agree in language and in some customs with the Tupinambas.

matters of *meum* and *tuum* led them to appropriate for their own and our use a quantity of this fruit, chiefly of the kind called "bananas da terra," which we roasted. In a short time the fishing-boat returned: our tawny friend with the wreath of feathers brought us, with a look of triumph, a small delicate fish called "Pacu," and a large "Araja," or ray, three feet long, which he had shot with his bow: these we roasted on a gridiron formed of small sticks. The sun was already setting when we re-embarked; nevertheless we continued rowing up the stream from half-past six until nine o'clock in the evening.

At first it was very dark, but after awhile the moon threw a pale gleam on the surface of the river: our course still lay among the islands, and we were unable to note the direction of the main stream. At length we halted on the left bank, and stepped on shore at a spot where, the Indians said, we should find some deserted ranchos of the Taconhapéz. Padre Torquato sallied forth in the dark in quest of these, and succeeded after a long search in finding two. We now took our *redes*, and followed our reverend friend as well as we could to the ranchos, which after all lay at no great distance from the river. Three of our party slung their hammocks in each of the sheds; but this was no easy matter, for just as they were getting into their berths the posts of these palm-roofed sheds are apt to give way, and tact is required in choosing a post strong enough to sustain the weight; sometimes it has to be strengthened by a second post fixed across it, to which the rope

of the hammock is slung; but although the *rede* is at first raised high above the ground, it not unfrequently happens that in a few minutes its inmate is brought to the ground in a more or less gentle manner.

The men were meanwhile busied in lighting the fires, which soon illumined the forest-trees around, and their fantastic wreaths of lianes, while at a little distance among the trees we descried by the light some of the Indians who, tired out, had hung their *redes* to the branches of the trees, and were rocking themselves to sleep. It was strange to see these naked savages lying exposed in the open air, without covering of any description, whilst we, in addition to our usual clothing, were glad to wrap ourselves in warm cloaks.

December 8th.—It was still dark, when the signal was given to start; and jumping out of our nets, we packed them up, together with bundles and cloaks, and went to the bank of the Xingú, where our breakfast was cooking over a fire not far from the canoes. Our Indian friends were however ready sooner than ourselves: the hero with the head-dress of feathers jumped out of his hammock at a bound, shook his long hair, and seized his bow and arrows; while his wife anointed and combed his hair, and then taking the hammock of her lord and master patiently on her back, followed him to the river-side. It was half-past five o'clock A.M. before our squadron was again in motion, after the Padre and the Consul had made another vain attempt to shoot a macaw, which sat perched in a group of beautiful palms, waiting for the first warm ray of the morning sun. Still keeping

along the left bank of the river, we soon passed some islands: the prospect, on looking back, was closed by a line of heights, and before us rose a rounded hill. The rushing sound of falling waters was heard in that direction, which gradually increased until at half-past six we reached the Caxoeira. The torrent here forced its way among a wide bed of rocks, or poured over the rocky shelves extending from its left bank to the islands in the mid-channel,—the whole covered with low green bushes, from the midst of which rose a magnificent tree with a rich mass of foliage, the rounded hill above-mentioned forming the background.

The bank was here covered with forest, rising gradually, upon which the first rays of the sun now shone, lighting up every imaginable tint of the most brilliant green, while the picturesque outlines of the lofty trees stood out in strong relief against the azure sky behind. But what constituted the greatest charm in these forests was the Uauassú-palms, which we saw here for the first time; their crowns reminded me involuntarily of the Prince of Wales' plumes, the pinnated leaves looking like a tuft of gigantic ostrich-feathers, rising with a gentle arch from the top of the large, straight trunk.

With a great effort we at length surmounted the obstacles in these rapids; but it was eight o'clock before all the boats were hauled over, and we could continue the voyage. Our attention had been attracted to the light ubá containing the Doctor, which had for some time kept apart from the rest: the crew beckoned and made signs to us, which we could not understand, until

the boat came near. They had secured a Paca (*Cœlogenys Paca*), still fresh, which was floating along, and had probably been killed, while swimming across the stream, by the Piranhas, a fish very formidable to bathers.

Above this Caxoeira, called by the Indians the "Cavitia," the Xingú assumes quite a new character. We now steered through narrow channels, frequently so shallow that the boats could be pushed along with poles, from time to time crossing them and passing between islands covered with the most luxuriant vegetation, some of which scarcely rose above the level of the river, and had all the appearance of submerged land. We often passed tracts covered with low tangled bushes, rising so thickly out of the water that we could hardly see a yard before us, and were sometimes obliged to lie down on our backs, and cover our faces with our hands, while the branches brushed over us. In these places the current swept along at the rate of five knots, while its average velocity was only two and a half to three knots an hour. After surmounting these obstacles we were richly rewarded by a view of the rich vegetation which covered the islands. The Uauassú-palms became more scarce, but were succeeded by the slender Jauari (prickly-palm*), which is only surpassed in elegance by the Assai. Their dark, round, wavy crowns generally occurred in picturesque groups near the banks of bushy islands.

At half-past eleven this morning we again enjoyed an open prospect up the river. On the left bank, at the foot of a wooded Serra, apparently from eight hundred

* See Spix and Martius, vol. 3, page 1158.

to a thousand feet in height,—the highest we had seen in our voyage up the Xingú,—we observed a white point, which our pilot told us was an Indian hut, where we might expect a friendly reception. At a considerable distance before us extended a range of hills, with rounded summits, partly hidden by the lofty trees upon an island on the right. The hut, with a few large trees, gradually separated from the forest of the mainland, and we now observed that it stood on an island. In half an hour we entered a narrow channel between the island and the shore, when a canoe full of Indians, chiefly lads, approached us: they were armed with bows and arrows, and seemed to be returning from the forest or from a fishing excursion, and steering like us toward the landing-place under the trees.

Leaving our weapons in the ubás, we stepped on shore. A group of Indian women were standing at a little distance: at first they gazed on us with astonishment, and then fled up the wooded hill, on the top of which we caught a sight of the hut through the branches. We had meanwhile been seen by the people there, for a number of men came running down at full speed, and conducted us to the cabin. The sight of our Indian companions, and a few words of explanation, removed at once any suspicion from their minds. On reaching the space in front of the hut, which was constructed of palm-leaves, we were presently surrounded by the inhabitants, who, in spite of their strange and almost savage aspect, showed the good-tempered expression peculiar to the Jurúnas. Several of the men had a vertical, dark-blue

stripe across their face, commencing at the root of their long, black hair, where was fastened the figure of a small red heart; the line descended hence, an inch or inch and half broad, across the high forehead, the well-formed nose and mouth, to below the chin. Some of the group held out their hands to us, or returned our proffered salutation; even the women, though more reserved, imitated the example of the men.

We entered the hut with the Indians, among whom were the youths we had seen in the canoe; and our party, together with some Indians who were in the hut, nearly filled the dim apartment. Padre Torquato advanced in a solemn but friendly manner to the chieftain of the Maloca, a tall well-built man, with sparkling eyes, and a resolute expression of feature: his thick, black moustachios, slender figure and a pair of trowsers into which he hastily slipped, distinguished him at once from the rest of his tribe. His whole manner indicated that he had experienced much hardship, and on his brow was an expression of deep care, so foreign to these children of nature: the cause was soon explained, when the Padre addressed him in Portuguese,—it was "Martinho the deserter." Born near Pará among the civilized Indians, he had been pressed into the military service,—a circumstance of frequent occurrence: but availing himself of the first opportunity to escape, he had fled to his savage brethren in the interior, and been received by the Jurúmas on the Xingú and admitted one of their tribe. Martinho occasionally travels to Souzel, to dispose of the wares which his friends bring him from a distance in

their canoes: these consist chiefly of cotton, but also of weapons, tame birds, monkeys, farinha, etc. On the present occasion there were for instance upwards of thirty Indians from the Upper Xingú. Martinho, who understands both Portuguese and the language of the Jurúnas, executes their commissions to their perfect satisfaction, and the Government encourages him in this traffic, which opens a means of intercourse with the most distant Jurúnas. Padre Torquato had procured a pardon for "the deserter," who was eager to show his gratitude on every occasion. Our reverend friend anticipated great assistance from Martinho in his future labours among the Indians, and on this occasion we considered the success of our expedition as dependent upon him: to our great joy Martinho expressed his readiness to accompany us.

After the ceremony of introduction was ended, we looked around the apartment; but following the advice the Padre had given us at Tavaquára, we contented ourselves at first with merely looking at the various objects of curiosity,—not touching anything until we had gained the confidence of the Indians. We then bargained for various articles, the Padre acting as our interpreter, either through the "lingoa geral" or the medium of his Indians. The Padre, pulled from one corner to another, as the various objects caught our notice, exhibited great patience, listening to each in turn, and anxious to satisfy us all. One was attracted by a kind of Pan's-pipe, formed of thin reeds of various sizes; another took a fancy to a gourd, with a reed a foot long fixed into it,

serving as a mouthpiece, from which were suspended different ornaments fastened by white strings: in spite however of all the efforts of our lungs, we could not draw any melodious sound from these instruments. A third of our party espied in a corner a round vessel used to hold the oil of the Uauassú-palm, with which the women anoint the hair and bodies of their husbands, to protect the skin against the stings of insects: this vessel was made of a gourd, stained dark-brown by the oil, and ornamented with Greek arabesques carved round it: who would have dreamt of meeting with figures from the antique in an Indian hut? Another called the Padre's attention to a lot of bows, each of which was recommended by some peculiar quality; one was black, another brown; a third, coloured brown and white, looked very pretty, but it had no spring, and the preference was given to the plain brown one, well-oiled and strung. The owner of the rejected bow came up to us, attracted by the beads which the Padre held, and fixing his weapon on the ground bent it with all his strength, to show its elasticity; but in vain,—the bow found no purchaser, and the Indian gazed on the beads with a look of hopeless vexation: what were all the pearls of the Indies to him in comparison with these beads?

In the midst of this crowd of Indians, all so eagerly busied with this childish finery, and bargaining for the merest trifles, a mother sat upon the grave of her husband, her eyes turned in grief toward the earth, and her children playing about her; as if she would protect the weapons of her departed husband from desecration; for

these are held sacred among the Jurúnas, who will not part with them for any price.

After awhile the Indians exhibited treasures of more value, and among the rest some handsome head-dresses of parrots' feathers, much more splendid than any we had yet seen, and which readily found customers. I was fortunate enough to obtain a large war-club, made of black wood deeply grooved, which the owner had taken in battle from an Axipai. Several of the Jurúnas wore a thin piece of reed stuck behind the ear, to which was fixed the tooth of a slain enemy: very possibly the possession of this trophy had caused the victim his life! But this token of valour had also its price, and found its way into the neatly woven Indian basket, which one of our party had filled with various ornaments, purchased from the women, who eagerly exchanged their strings of grey seeds for our glass beads. Many of these teeth—instead of which others wore red macaws' feathers behind their ear—had been taken from Peapais slain in battle; we observed in the crowd a slave belonging to this tribe, who had been captured by his present owner and brought to his settlement.

The heat was oppressive in the hut, and, notwithstanding the burning sun, we were glad to escape into the open air. The hut occupies nearly the whole summit of the hill, which rises like a wooded island from the dark green waters of the river, and is called by the natives Urubúquára or Tapuáma. The view from this spot is very extensive, overlooking the Xingú in its entire breadth, while between two dark, wooded islands

the eye follows its course upward to the light-blue range of hills that bound the horizon. The river is margined by high banks on each side, covered with forests. Straight before us in the middle of the stream was a group of rocks, with a few shrubs, and further on toward the left bank we observed a second line of rocks and shrubs, which indicated another caxoeira in that direction. Upon examination it was evident that the river here described a bend, though of inconsiderable extent, which, like the rapids below the island of Taconhapéz, occasioned its increased width. Following a narrow path, close to the slope near the hut, the long island above-mentioned lay directly opposite; which, although separated here by a channel of at least a thousand paces broad, approaches so close to the mainland further down as in part to conceal the latter.

We observed two slightly built ranchos behind the hut, for the accommodation of the numerous guests who occasionally assemble here. Under the roof of one of these were tied some tame monkeys, which were jumping to and fro with great activity, and a couple of fat guaríbas; while around the hut was a small plantation, neglected and choked with weeds: on the open plot of ground were stacked some poles stript of their bark, and several bundles of reeds, intended for arrows: a rotten canoe was lying among the tall weeds at the foot of the river's bank.

On returning to the hut, my attention was caught by a group of tame monkeys and parrots. I purchased a green parrot, with a broad band of blue and red feathers

round the neck,—the rarity of its colours attracted me. The pretty little daughter of "the Deserter" was feeding these creatures with great care and tenderness. Our repast had been prepared under the shady trees near the landing-place, where we now found our crew and the Indians swinging comfortably in their hammocks, while a tame, long-legged black Mutúm stalked proudly among the strange guests.

On our return in the evening from a little excursion to a rock in the river, whence we had a fine view of the lofty forests on the left shore, we found all the people assembled before the hut, some sitting on footstools, but the majority standing; several groups were engaged in lively conversation. We mingled among the Indians, and seating myself beside an old Pagé I tried to engage him in talk, with the aid of an interpreter. I touched upon the subject of war, which the Pagé caught up passionately; he grew quite eloquent, and in his impatience to explain to me a surprize of the Taconhapéz which had been recently executed, he jumped on his feet, and acted the occurrence with such energy and vividness, that with the help of a few words explained by our interpreter, I was able to comprehend the whole story. The effect upon the group of Indians was striking; they drew nearer and nearer, watching with eagerness the motions of the Pagé, as he represented a Taconhapé pierced in the back by an arrow, falling to the ground and dying in agony, while the other inhabitants of the Maloca that was attacked took to flight: he concluded by describing with great pride how his brother had been

captured and subsequently eaten by the tall Tapui-uassú, who live higher up the Xingú.

The rays of the setting sun illumined this scene, and the approach of darkness warned us to fetch our hammocks from the boats, and sling them under the ranchos, the smell in the hut being very offensive. The moon shone brightly upon forest, hut, and stream; all around was hushed into perfect silence, and we presently fell asleep.

December 9th.—According to agreement we rose this morning at daybreak; our hammocks were soon packed up and taken to the boats, and we then sat down to our frugal breakfast of tea and farinha. Just as the sun was rising, our small flotilla, joined by the ubá of "the Deserter," pushed off from the shore, and pulled in the direction of the roaring caxoeira, which we reached in less than an hour. The Xingú here is nearly a nautical mile in width, and sweeps along with greater velocity than in the former rapids, forcing its way between the shelfy rocks and rounded blocks of granite, which were larger than we had yet seen. The course of the river here changes from N.E. to N.N.E., and this bend occasions its increased width.

Our boat, with that of our new friend Martinho, had kept close to the left shore; for the force of the current decreases considerably near the banks, and sometimes even changes into a kind of counter-current. The Padre's ubá, which was far behind, kept too near the middle of the river, and was carried along with its broadside to the stream; it was only with great exertions,

and the directions of Martinho, that it could be worked round into the proper channel. Looking back, there was a charming view over the forest behind the "Casa do Martinho," to the wooded range of hills which seemed to bound the course of the Xingú, and gradually disappeared behind the trees on the islands below the rapids, near the right shore of the river. The foreground of the picture was formed by large masses of granite, between which the river forced its way in a foaming torrent, and was enlivened by the sight of the Padre's boat contending with the stream, and urged on by the united strength of our Indian companions, each exhibiting a power and vigour such as we Europeans only find in the antique. Nor were Count Oriolla and Padre Torquato idle spectators, but standing up to their middle in the water they worked with might and main. At length their efforts were successful, although for a considerable distance above the proper caxoeira we had still to contend with the strong current.

I must not pass unnoticed a remarkable phenomenon I had yesterday observed before reaching Martinho's hut, and which I saw again here. When our boat reached the middle of the rapid, it seemed as it were to be standing on a high ridge, from whence the surface of the Xingú sloped down on both sides: yesterday I had only observed this singular appearance in looking up the river; the cause of it I could not discover.

A few isolated blocks of granite were still visible, with here and there shrubs upon them. We observed the boat of Senhor Roxa, a few hundred paces in ad-

vance, suddenly strike out of its course and pass between some of these masses of granite, which encompassed a small expanse of still water, sheltering it from the surrounding currents. The crew made signs to us to follow them, and presently the cry of "Jacaré!" caught our ear. We entered the small bay, and stood with our eyes fixed on the dark-green waters, and our guns ready cocked, while the Indians tightened their bowstrings and fixed their arrows. Our companions in the other boat told us they had seen an alligator sliding from the rocky shelf into the water. We crossed the small bay in all directions, those who were armed standing at the head of the canoe. All at once the Indians appeared, by their rapid glance, to have discovered the creature, but we in vain gazed in the same direction: presently however we perceived a strong musky smell, a certain indication of the presence of these animals, and the water became turbid and muddy. At the same instant a couple of arrows whistled through the air and vanished in the river: an instant after their feathered shafts reappeared, sticking upright in the muddy water, which showed that the prey had been struck: presently the arrows were carried under again. As the water cleared and the sun shone upon it, I fancied that I discerned the yellowish white belly of the alligator, and hastily fired. The Padre, whose ubá had come up with us, seized a bow, and discharging an arrow with Indian precision, the wounded animal rose nearly to the surface of the water: the arrows fixed in its back showed us the course it took, and our canoes pursued in full chase. My shot

had missed, and I had not a second charge at hand; but Count Oriolla kindly lent me his gun; and, watching a favourable moment, when the alligator raised its head above the water close to the canoe, I despatched him with a shot through the head. We drew the "monster" into the boat, and found that it measured only about five feet in length, and belonged to the "Jacaré-tingas," a small species of alligator, with thinner plates on the back and abdomen: the larger "Jacaré-uassús" are only met with in the Amazon. The poor creature still moved in the boat, having, like all amphibious animals, great tenacity of life.

We now continued our voyage, in an oppressive heat: the river retained the same features; but the Uauassú-palms, with their leaves resembling tufts of ostrich-feathers, were more numerous. It was past noon when we reached the next Maloca. Piuntéua is a small island, only separated from the sloping forests on the right shore of the Xingú by a small side-branch: at least the next wooded hill had not the appearance of an island. It is however difficult to distinguish these islands from the mainland; and even our Indians, one of whom declared that he had on former occasions been as high up the river, were unable to give us any correct information.

Two connected ranges of wooded hills descended close to the shore of the river. The island was margined with a low copse, intermingled with a few columnar cactuses, the first we had seen for a long time, and under these appeared naked shelves of rock, washed by the

river; several boulders of granite rose out of the main stream, and others in the narrow channel nearer the bank, overgrown with low bushes. Close to the rocky shore of Piuntéua, under the shelter of two small ranchos, two families of Indians were swinging in their hammocks, surrounded by the few articles of necessity which constitute Indian comfort,—calabashes of all sizes, baskets for mandioca, standing on the ground, and their weapons suspended to the palm-roof: the ranchos were shaded by trees and bushes, and separated by some large blocks of granite. On the river lay two canoes, near which we anchored ours.

The good people roused themselves for a few moments, to give us a friendly welcome, which done they returned to their *redes*. The Padre seated himself in a hammock near them, endeavouring to win their confidence, and thus pave the way for a future closer acquaintance. We likewise drew near, and inspected the utensils and weapons in the hut, some of which we purchased: among other things I bought a pipe from one of these Jurúnas, made from the bone of a slain enemy, a Curinája, and a pair of small paddles with which the Indian boys were playing.

The skin of a jaguar, still warm and pliable, was stretched upon a block of granite beside the ranchos, on a narrow path leading between the rocks up to a larger hut. The chieftain of the Maloca told us that he had this morning observed the tiger swimming from the opposite shore toward his little island, and had shot it with his bow when half-way across the stream. This animal

reminded me of the alligator, which I had committed to the especial care of the negro, hoping that this trophy might one day at Berlin form a companion to the huge boa-constrictor. My horror may therefore be imagined, at seeing our tawny companions, with the negro at their head, seated around a blazing fire, and roasting some meat, which, from the strong smell of musk and the remains strewn on the ground, I at once perceived was a part of my alligator. Several women were busied close by in preparing a kind of porridge of yellow plantains for their own people, but of which the hospitable Jurúnas offered us a part. Count Bismark tasted the alligator, but did not seem to relish it much; the Doctor, on the contrary, pronounced it excellent,—it reminded him of his former visit to his beloved Botocudos.

It was past two o'clock in the afternoon when we left Piuntéua. In the centre of the small, flat and rocky island rose a forest, resplendent with the brightest tints of green, above which a Uauassú-palm waved its tuft of feathery leaves, vying with another tree that stretched its fanlike branches, lightly covered with foliage, high into the air.

Among the boats of our little fleet, the Padre's canoe presented the most attractive picture. The Indian decked in his feathered head-dress was labouring with might and main; close to him stood his new companion, a tall young Indian, with a white feather stuck behind his ear, his features expressive of his joy at this excursion, and readiness to share in its toils. Count Oriolla and Padre Torquato were meanwhile hard at work, alternately

blowing the large Indian war- and hunting-horn they had purchased at the Maloca, from which they drew most unmusical tones. At the sight of these brawny Indians, and the rude sound of the horn echoing through the forests, I involuntarily fell into a train of thought: how many centuries, nay thousands of years, may the shores of this very river have presented the self-same aspect,—inhabited only by the same wild tribes, living in their isolated huts, hunting and fishing, and engaged in petty warfare with one another, like these very Jurúnas! how many generations, nay tribes, may thus have lived and thus have passed away!

The current was now so strong, that we could not advance on an average more than one knot an hour, and did not reach the neighbouring rapids of Passaí until three o'clock P.M., which opposed a formidable obstacle to our progress. We could only work our way very slowly through the low bushes which rose out of the stream, and which, with the rapids, shutting out any distant view, seemed interminable. The sun was shedding his last rays on the scene, when we landed on a sandy beach at a spot projecting into the Xingú, which we at first mistook for an island; our Souzel Indians called it the "Ponta."

While the fires were being lighted we amused ourselves in joking with our new friend the young Jurúna Indian, who had come from the interior and had never before seen white people. Count Oriolla handed him a loaded gun, but no persuasion could induce him to fire it off,—not that he evinced any suspicion of us, but the

report had on a former occasion frightened him. He danced with us readily enough, and we one after another took his arm, imitating as well as we could the steps of the Indian ladies at the ball at Tavaquára. At this he laughed heartily, and was beside himself with delight, nay he even joined in our songs. With the aid of the interpreter we endeavoured to learn from whence he came; whereupon he pointed to the moon, and described eight well-marked circles with his arms, his whole body following the same motion, intending perhaps to indicate that it required eight months for him to reach his home. He evinced great interest in the different articles we possessed, which he touched with considerable curiosity; we gave him a knife, and Mr. Theremin added the present of a shirt. This delighted him,—he immediately dressed himself in the shirt, and seemed never satisfied with looking down on himself in his new attire. My blue cloth jacket was an object of especial interest to the young Indian, who watched me eagerly when I put it on and buttoned it up.

Supper awaited us,—a roasted Mutúm, which we despatched with great appetite. The mosquitoes, which had hitherto not molested us much, came out this evening in great numbers. Scarcely was our supper ended, when these gnats,—chiefly a small species called Carapaná,—attacked us in such a manner that we danced about with the pain as if mad. Some of the party in despair jumped into the Xingú; I seized a bottle of spirits of camphor, which we had been advised to bring with us, and rubbed it on my skin: this relief was however only momentary,

and the irritation grew worse than ever. At last, after running, jumping, and rubbing ourselves, fatigue got the better of our sufferings; we seized a burning torch, and brandishing it in the Indian fashion, made our way into the thicket to two dilapidated ranchos, which were to shelter us for the night. We slung our hammocks, got into them and shut our eyes, but tried in vain to sleep, rolling from side to side, till the poles began to crack, and our toes and elbows broke through the meshes of our hammocks. Every now and then we started up as if bitten by a tarantula, and had no little trouble in regaining our equilibrium, to prevent our falling out of these swinging beds. At last we hit upon a means of protection for at least one part of our body, and wrapped our ponchos round our feet: but alas! this afforded small relief, for the dear little creatures now settled only the more resolutely upon our faces.

This failure to obtain ease was moreover accompanied by another disagreeable discovery; the poor Consul found that he had slung his hammock to a pole containing a large nest of ants directly above his head, which from time to time dropped upon his nose, and effectually kept him from sleeping. In despair he jumped out of his hammock, and sought shelter from their attacks near the fire; I too followed his example, for the mosquitoes actually began to sting me through the poncho, and had found their way to my skin in spite of boots and trowsers. My patience could endure it no longer: wrapping myself in my poncho, and holding both hands before my face, I left the dark thicket, and went up to the glim-

mering fire, where Count Oriolla sat, apparently enjoying a sound sleep, enveloped in his "Mosquiteiro," a fine gauze covering, and his poncho: this sight gave us at last hopes of rest. Mr. Theremin however soon retired again to the rancho, and our young Indian friend alone remained with me, his face beaming with joy at the acquisition of his white shirt: he assisted me in getting dry boughs, and piling them on the fire, to drive away the plague of mosquitoes. Placing myself—alternately head and feet—close to the fire, I obtained some relief, and at length fell asleep, in spite of the combined attacks of bixos (sand-fleas) and mosquitoes. Presently however I awoke in torments; though *we* had slept, the carapanás had been awake and busy. Count Oriolla too was no longer secure against these enemies; and others of our companions quitted the rancho, and joined our party round the fire.

The men were lying huddled together near the shore, under the sailcloth from the 'Growler,'—it looked like a large grey heap on the sand, which occasionally gave a heaving motion. Whitish clouds now skimmed across the bright face of the moon, and presently drops of rain fell. We retreated to our hammocks, and the torment of the mosquitoes somewhat abated; the rain however soon fell in torrents, all our men crowded for shelter into the rickety sheds, and—we dropped asleep.

December 10th.—Day was just breaking as we left the ranchos, and, loaded with the baggage, betook ourselves to the sandy beach to breakfast. Dark clouds covered the sky, and a fine rain fell. The mosquitoes also seemed

to have aroused from rest, and were more active and troublesome than ever. The rain soon after increased, which was a good sign; and delaying our embarkation a short time, the sun shone forth. At half-past six o'clock we continued our voyage up the river: rounded hills descended on either side, indicating the probable direction of the banks; while numerous flat islands, covered with groups of tall trees, together with the low bushes and copse rising above the surface of the river among which we rowed, shut out any open prospect. Our progress today, forcing a way through this copse, was not so agreeable, for the drops of rain continually shaken down from the bushes baffled all attempts to dry our linen, which we had stretched out upon arrows for that purpose: to counterbalance this inconvenience however, we found the fruit, which resembled cherries of a plum colour, although rather bitter, agreeable to the taste as a variety.

We were told that we should today reach a Jurúna hut, the residence of an Indian named Carlos, near the mouth of the Iriri, where we should hear particulars of a large Indian settlement in that neighbourhood, of which we had been told at Souzel, and which was to be the extent of our voyage. Early this morning I asked the Indian hunter who steered our canoe whereabouts the mouth of the Iriri was situated; he pointed back toward the wooded left bank of the river, saying that the Iriri joined the Xingú behind the islands in that direction. We afterwards found that this information was questionable, as these people have no clear notion of the

geography of their country, nor in fact any idea of those two important considerations time and space, which they treat with perfect indifference: this is sometimes very disagreeable, as one is dependent upon their guidance in such voyages. Padre Torquato counselled us always to let the Indians have their own way, and not to hurry them, as the best means of keeping them in good humour; they will then work hard and cheerfully: but when they want to rest, to halt, or to encamp for the night, it is well to yield to them, and they never abuse such liberty. We followed the Padre's advice, and found the advantage of doing so.

As we gradually approached the left bank of the river, the Indians pointed out to us the round hut of Carlos, situated on a flat rocky islet. A river, from four to five hundred paces wide, here flows into the Xingú from the west, parallel to which extends a range of hills covered with magnificent forests. This range decreases in height toward the east, and terminates in a pointed hill, which separates this river from the main stream of the Xingú issuing from the dark forests on the south. The north bank of this tributary, near its junction, seems to be lined with wooded, bushy islands, upon the last of which stands the "Casa do Carlos," projecting into the Xingú. From the first I imagined that this water must be connected with the mouth of the Iriri, but it was not till after several hours that the Indians could agree in declaring it to be an arm of the Xingú into which the Iriri shortly before flowed.

Our canoe had preceded the others, in order that the

Indian pilot might announce our visit, and we landed on the rocky bank of the island, which at first sight appeared to be deserted. Looking about us we perceived a ubá crossing the Xingú and coming toward the Maloca; and as it approached, we distinguished several Indian women and children, a number of tame monkeys and some dogs; in the fore-part of the boat stood two tall lads, armed with bows and arrows, while a manly-looking Indian standing near the bow propelled the canoe with a pole, assisted by two women paddling. The latter quickly leaped on shore, and ran to the hut; and in a few minutes some men, who now made their appearance, came down to us, and received us in a friendly manner, as well as our companions, who had by this time arrived in their canoes. From these people we learned that the large settlement on the Iriri no longer existed, and that the inhabitants (who, we afterwards heard, were Taconhapéz, and not Jurúnas) had retired probably to the interior. They told us, that if we proceeded further up the Xingú, we should soon come to a larger Maloca of the Jurúnas, whose inhabitants were unconverted and had no intercourse with the whites. We resolved therefore to continue our voyage, as soon as our crew had finished their meal; and meanwhile we prepared for ourselves some boiled fish, with farinha and water, which we intended to eat on board the canoes.

Carlos, a tall and handsome Indian, with strings of blue beads round his neck, joined us, and took his place at the head of the boat with the Consul and the Doctor, handling his pole as if it were a slender lance. Our

little fleet crossed the mouth of this broad arm of the river, into which the Iriri is said to fall, and paddled along the eastern point of the low, wooded Serra above-mentioned, which was soon passed.

The main stream of the Xingú from this point assumed quite a new character; the boulders of granite in the river were larger, and the islands, instead of being low and flat as hitherto, now rose in the form of rounded hills, covered with luxuriant shrubs, trees and palms; while the frequent occurrence of "Prayas" along their margin indicated a loose soil. On the sandy beach of one of these islands we saw the recent footmarks of a large tapir. These islands divide the main stream of the Xingú into numerous channels, through which the current rushes with the velocity and force of a mountain-torrent, forcing its way over boulders of granite and shelves of rock. While navigating this labyrinth of waters, we were excluded from any general survey of the river; here and there only catching a view of the Serra do Iriri, illumined by the golden rays of the evening sun, while the islands, profusely clothed with vegetation, formed an emerald-green frame to the picture. The frequent whirlpools and rapids obliged us repeatedly to quit the ubá, which was propelled with great labour by our crew standing in the water. Loaded with the most valuable of our effects, we leaped from one point of rock to another, until we could resume our seats in the boat.

At last we had a clearer view of the river: a kind of strait seemed to open, one of the main branches, which we entered between the dark wooded Serra do

Castanhal, from eight hundred to a thousand feet high, approaching close to the left bank of the river, and a high wooded island which we had at first mistaken for the right shore.

The strait was crossed with a few strokes of the paddle, and we now came to a broad basin sprinkled with a number of flat and bushy islets. Among these, and not far from the left bank, lies the small island of Castanhal, sufficiently distant from the shore to admit an open view of the Serra from the summit to its foot. We reached Castanhal at half-past four o'clock P.M., and put our boats into a small harbour surrounded by a low sand-reef, upon which, amongst some bushes on a rudely cultivated plantation, we observed four huts, the inhabitants of which received us very hospitably. The elderly wife of the chieftain was especially friendly and attentive. She was born at Souzel of Indian extraction, and had followed her husband, whose acquaintance she had made during his trading journeys, into the backwoods. Her joy appeared great to see people from Souzel once more, and the Padre availed himself of this acquaintance to obtain information respecting the country, which was facilitated by her speaking broken Portuguese. There was a glorious sunset, and the moon shone brightly as we retired to our resting-place.

December 11th.—Those of our party who had preferred sleeping in the open air, to remaining in the close hut, were disturbed and driven from their hammocks at daybreak this morning by a drizzling rain. As soon as this ceased we lighted a fire, and made the necessary preparations

for cooking. An old Pagé joined us, who brought with him a footstool from the hut; but before sitting down he looked up at the sky, in which the black clouds still threatened rain; and blowing in that direction with all his might, he stretched out his hands flat toward the clouds, and passing them violently through the air, conjured the rain with earnest solemnity. He then looked at us with an air of triumph, as much as to say, "Now you may be at your ease, not another drop will fall!" and holding the wet stool over the fire he complacently seated himself and smoked his cigar.

It was six o'clock A.M. when we left Castanhal, called by the Indians Muruxitéua. Approaching again gradually the magnificent woods on the right bank we met a ubá going down the river, in which sat a handsome young Indian female, richly ornamented with glass beads and surrounded by her children, who were decorated in like manner, while two Indians propelled the boat with poles. They looked at us with great astonishment, and turning their canoe began to accompany us up the river, so that the number of our boats was now seven.

We halted a few hours later near a hut, erecting in the forest on the right bank, and called Jacuí. Looking up the Xingú from this point, we found a great resemblance in the surrounding country to that on the shores of the Amazon: the river is broad, the forests declining toward the horizon with the appearance of a wide avenue seen in perspective; while here and there the great expanse of water is interrupted by small wooded islands running parallel with the main stream. We rested in the roofless

hut until our rice was cooked: a prudent foresight obliged us from today to put ourselves upon half-allowance, in order to guard against casualties, as our absence from the Igarité would most probably exceed our calculation. Meanwhile we Europeans rested peaceably in our hammocks beside the friendly Indians, under the open picturesque-looking hut. Large troughs formed of the hollow trunks of trees, or huge calabashes, standing on the ground, contained a yellowish liquid made of mandioca, which the Padre told us was poisonous. All the housekeeping utensils, weapons, etc. were placed on the shelves. In the middle of the room were the trunks of two trees, off which our people ate their meal, and through the open end of the hut we had a view of the dark Xingú, bounded by the forests on the opposite shore.

After resting for scarcely an hour we continued our voyage, and notwithstanding the burning noonday sun, our boat was as usual soon in advance of the others. The Doctor, who had changed places with Count Bismark, put up his large umbrella, to shelter himself from the sun's rays, which sadly annoyed the poor paddlers, and for a long time hid from my sight any view up the river. When at length, at the request of all the party, he furled his umbrella again,—and for a good hour at least he had enjoyed his selfish gratification—there lay the Serra distinctly stretched out before us, about a thousand feet in height. We had previously seen a faint outline of it from Castanhal at a great distance, on the southern horizon. "Near yonder wooded ridge lie the Malocas," said our Souzel hunter. The goal of our ex-

pedition therefore now lay in sight, and we determined to proceed no further than these mountains.

We had hitherto, since leaving Pará, only looked forward, and thought of the scenes before us; but at this moment, at the sudden sight of this range of hills, indicating the vicinity of the long-desired object of our expectation, the Malocas of the wild Indians, we felt all the power that lies in the simple word "home." Far removed as we were from our country, in the heart of these forests of South America, the distance seemed to vanish as our thoughts rapidly transported us across the ocean, and banished all calculation of space from our minds. Not so with *time*: the last letter from Europe was already several months old, and several more might possibly still elapse before the next despatches should reach us, when the information they contained might no longer be true,—what changes might have taken place in the interval! Imagination carried us back to all the haunts of our affectionate remembrance beyond the ocean, which distance seemed to centre in a word—Europe! Those only can know these feelings of separation and of attachment in their full extent, who have crossed the great barrier that parts the Old World from the New!

We had been gliding along a large island, under the shade of the overhanging branches which formed an awning over our boat, when on a sudden we heard the barking of dogs and a rustling in the bushes; and presently after saw a canoe, pushing off from the bank, at a spot where branches recently lopped and strewn about, and the grass trampled down, led us to infer that a chase

had here terminated. At the bow of the canoe stood a tall, handsome youth, handling the large pole with great energy and skill: his finely-formed and well-proportioned limbs were set-off by large black patches painted upon his skin on the shoulders and thighs, which together with black stripes down his legs reminded me involuntarily of the Spanish costume in the opera of "Cortez." The perspiration stood on the lad's brow and in his long black hair; but his eye was riveted upon a man seated at the other end of the boat, of herculean build and with raven-black hair like a lion's mane, who was steering dexterously with a small paddle. The noble and friendly expression of the old man's features contrasted strangely with the black stripe which divided his face from the forehead to the chin. Between the man and his grandson lay the head and shoulders of a large tapir, recently slain, the trophy of their day's chase, to which they both pointed with exultation as we paddled along by their side. The old Indian smiling shook his head at the proud joy of the lad, who, but just initiated by this day's hunt, seemed in his bold looks to challenge us to a trial of skill. The tapir—"Tapiira," as the old man called it—had been shot on the left bank of the river; and after having in vain searched the island along which we were coasting for game, the Indian was now returning to his hut. The dogs pressed round the game, snuffled it, and tried to lick the blood, while the lad vainly strove to keep them off, shouting and belabouring them with his pole: the old man however soon quieted them.

We now parted from these Indians, who steered toward the left shore; and on reaching the end of the island had a view of a solitary Indian hut, upon a small islet near the right bank: then succeeded on our larboard another long island, covered with forest like the former. Since leaving Jacuí we had again seen considerable groups of Jauari-palms, and for several days had observed trees bearing large pods, partly growing on the shore, and partly out of the bed of the river as mere bushes.

On reaching the end of the last island we directed our course to the left, steering through a number of narrow channels, unable to discover our proper course, about which we had unfortunately neglected to make the necessary inquiries, until at four o'clock P.M. we unexpectedly approached one of the Malocas called Piranhaquára, or Piranhosucuar. Upon a sandy island stood three Jurúna huts, surrounded with plantations of mandioca, cotton, plantains, and melancias, a kind of water-melon. These patches of cultivated ground are usually met with near the Indian huts, but they have no hedges and are greatly neglected. Opposite to the landing-place, from which the bank rises gradually up to the chieftain's hut, lay another islet, separated from the former by a narrow channel. At this spot a gigantic tree rose above the thick green wall of tangled lianes, stretching out horizontally an enormous branch, from which hung down such a mass of creepers that it had quite the appearance of a waterfall of verdure. At each end of the narrow channel, which flows at the foot of the

Maloca, are a number of similar bushy islets. We left the boat, and, accompanied by our steersman and interpreter, waded through the deep sand to the hut. The Jurúnas came out to meet us, with their weapons in their hands, and returned our signs of amity, although our appearance seemed to make a stranger impression upon them than upon any of their tribe whom we had hitherto met; and in like manner the natives of Piranhaquára appeared to us if possible still more strange than any former Indians, from the mode of painting their bodies and the black stripe down their face; their warlike mode of reception was also of greater interest. We were now conducted into the hut, and after a short while stepped outside by the opposite door: there we saw the two other cabins, situated at short distances in a line with the former. Immediately behind the chieftain's hut lay pieces of the tapir which we had seen in the canoe, surrounded by several Indian women, gazing at it with eager curiosity. We also recognized our friends the old man and his grandson in the crowd of Indians, among whom a young tapir was walking fearlessly about, without noticing its dead brother, and thrusting its long snout among the herbs for food.

We now heard the sound of the paddles in the Padre's canoe, which, followed by the others, was just rounding the point, and our friends were presently at our side. Padre Torquato introduced us again in due form: the Tuxáva from Tavaquára was attired for the occasion in his gala dress which the Padre had given him,—the dark-blue servant's livery bedizened with gold-lace, blue

trowsers and cap. He wore his long hair tied up in a thick tuft on the back of his neck, which gave him the appearance of a woman in disguise; while the lower part of his figure had somewhat the cut of a monkey, his dark-brown, naked feet protruding out of the large trowsers, which he kept hitched up with his hands to prevent his treading upon them.

Padre Torquato hoped that his *protégé*, decked out in this remarkable attire, would make a favourable impression upon the Indians, and gain their adhesion to his cause,—his claim to the office of Tuxáva of all the Jurúnas. This introduction by the Padre was therefore of great importance to the pretender; but unluckily all the art displayed in his toilet was thrown away, and had neither the effect of withdrawing the allegiance of the Jurúnas from their legitimate ruler, nor even of overcoming their indifference: they retained their cold behaviour, regarded him without any sign of interest, and saluted him just as they had saluted us. Jozé Antonio Bitancourt squatted down among the women in a corner of the hut, and joined in their wailing for the dead,—a true Indian employment,—during which his laced livery, as may be imagined, formed a strange contrast with the surrounding figures. After the ceremony was ended, he laid aside his dress, one article after another; for, proud as he was of his finery, it evidently incommoded him not a little.

We meanwhile inspected the three huts, and bargained for various weapons and utensils. Among other things I purchased a wig made of bast, which the owner

had taken from an enemy—a Peapai or Axipai, I believe: but I was unable to obtain a feather-cloak, somewhat the worse for the wear, as the owner of it, a Pagé, was gone to Souzel. The wig and cloak were the only objects of the kind that we observed among the Jurúnas. I wished to have purchased the young tapir, for the Zoological Garden at Berlin, but Padre Torquato was beforehand with me, and had secured it for one of his friends

This evening we were to have another extempore dance which was preceded by a supper on a grand scale. On his way from Jacuí to this place Count Oriolla had shot a beautiful blue and yellow macaw,—the first that any of our party had killed, although we had fired at above a hundred: this bird flies very high, and is shot with great difficulty. The macaw was served up as a great treat, but was so tough as to be a sore trial to our teeth. Count Bismark contributed a pigeon to the supper; but the grand dish of all was a piece of the tapir, roasted, which had an excellent taste: add to these some chocolate-soup, and the reader will admit that we did not fare badly on the banks of the Xingú. Toward sunset a number of Indians collected in front of the hut of the Tuxáva of Piranhaquára, a friendly old man, with long white hair hanging over his tawny back. I tried to enter into talk with him, with a view to learn something respecting the Indian mode of warfare, and succeeded pretty well, although our conversation had to pass through the interpretation of three or four persons before it reached me in German. To give us an idea of

the great number of his companions on one occasion, he first counted the fingers on his hands and toes, and then turning suddenly round pointed to the hands and toes of all the bystanders, leaving me to perform the sum of multiplication: with these followers he surprized a settlement, where all the men were absent, and many of the women were either made captives or killed. Soon afterwards however the men returned, and the Jurúnas were put to flight. On this occasion the old man was wounded in the back by an arrow,—a circumstance on which he seemed to pride himself greatly, forgetting that it was a plain proof that he had run away.

When the chieftain's story was ended, the bystanders, observing that we seemed still willing to barter, went and fetched various weapons, utensils, etc.; an old man offered me his necklace of jaguars' teeth, and I purchased others made of monkeys' teeth.

It had meanwhile become dark, and the red glare from a large fire at the back of the hut struggled with the silvery light of the rising moon. The dance was now to commence: some of us took our seats upon esteiras spread out close to the hut, or on Indian footstools. The place was soon crowded with groups of Indians, but no one seemed inclined to begin. While we were waiting for the dance, I questioned Padre Torquato relative to the religious belief of the Jurúnas. Instead of answering, he turned to an old Indian near us, whom he had himself baptized when once on a visit to Souzel, and asked him what was his faith. The old man answered without hesitation, that he believed in a deity from whom

came all good, pointing at the same time to the moon, and on a being from whom came all evil. The Padre himself translated this to me,—he seemed to have expected from the old man this naïve confession of his pure Jurúna faith,—a proof how little the missionaries instruct their converts in the doctrines of Christianity: baptism is to them simply a political act,—it confers on a man a name, and he thenceforth considers himself as belonging to Souzel, and as one of the children of their great father the Emperor, while the Government can add another subject to the returns of population, of whose existence it would otherwise not have known. The Moon, as the representative of the Deity, is held in great reverence by the Jurúnas, and the day when she becomes full is their chief festival. They prepare for these occasions an intoxicating drink from the root of the mandioca, called "caxeri," of which the assembled inhabitants of the Maloca partake in the evening; and as soon as the men are sufficiently excited, the dancing commences. Except on these occasions, the men never join in the dance. The festival today was got up *extempore*, notwithstanding that the moon was neither at the full nor was there any caxeri; instead of the latter, I thought of giving the caxaça we had brought with us; but on inspecting our store I found so little left in the large flask, that I considered it desirable to keep this for our men on future occasions of cold or fatigue: the dance in consequence did not come up to our expectations.

After much persuasion, six women and a little girl

opened the dance, with the same steps as the women at Tavaquára, accompanied by a monotonous song, the improvised burden of which was meant to convey a welcome to us. I fancied that I often distinguished the words, "kain-be, kain-be tova," which continued to sound in my ears long after I had lain down to sleep in my hammock. Several of our party followed the Indians to their huts, but the Padre, myself, and the rest of our people slung our hammocks round the expiring fires, which had lighted up the dance.

December 12th.—All were astir at an early hour this morning, for the old tapir-hunter had promised us a chase today. On reaching the landing-place, he invited some of us to take a seat in his ubá, and other boats manned by our people followed. The boy laboured valiantly at the head of our canoe; the dogs were all eagerness for the chase, and the old hunter steered straight into the labyrinth of islands. We too seized the paddles to assist, and soon afterwards observed the traces of a tapir on the sandy beach, but not recent enough to induce us to land and follow them up. We now entered a wide channel, between two long wooded islands.

Whilst the old man was searching for footmarks of the tapir, I got into another boat, leaving Count Bismark alone with the Indian and his grandson in their ubá, which presently steered to the right of us along the forest. On a sudden we heard a splash in the water, and at the same instant saw the boy and Count Bismark pitching head over heels into the Xingú. We

paddled towards them, laughing heartily, when the boy re-appeared above the water, and seemed to be pulling something into the boat. Count Bismark swung himself into the ubá, shouting to us that the lad had caught a "Capivari" (*Hydrochærus Capybara*). This he effected in the following manner: the boy had observed the capivari running from the bank into the water, close to the boat, to swim over to the opposite island, and instantly plunged in after it, which gave the boat such a jerk that Count Bismark lost his balance and fell overboard. The boy followed the capivari as swiftly as an arrow, and seized it so dexterously by the throat, that it could neither escape his grasp nor defend itself with its sharp teeth. We saluted the young hero with a round of applause for his bold and skilful exploit. The little restless prisoner was tied with lianes and thrown into a corner of the boat, where it at first made a hideous noise, and we had some trouble to keep the dogs quiet, who eyed the little beast eagerly; our chase however soon put them on another scent. The old hunter and his grandson now left the boat, and took the dogs to the edge of the forest, in order to let them beat the island; whilst we marksmen stationed ourselves in the boats near certain places, where, the Indians knew, the tapirs usually issued when passing from one island to another. The Indians commonly hunt the tapirs, tigers and deer in this manner, lying in ambush, while the dogs beat the forest or island; and when the game takes to the water, slaying it as it swims across the river.

In a short time the dogs were in full cry, and seemed

to have come upon a fresh track. The spot where we were stationed in the middle of the channel, near a mass of gneiss, commanded a view of a handsome group of Jauari-palms on a projecting point of the island. Our guns were ready cocked, and we pictured to ourselves the large animal plunging into the water, and marked the very spot behind its ear, which had been pointed out to us by the Indians as the fatal one. In a word we were so full of expectation that I could scarcely summon coolness to sketch a group of palms,—my fingers itched much more for my gun than the pencil.

The barking of the dogs became less, and gradually ceased altogether. One hour passed after another: even the Counts, passionately fond as they were of the chase, thought it very irksome sport, and, to console themselves for having nothing better to do, fired away at some macaws, which flew temptingly close over our heads. Count Bismark was lucky enough to shoot two beautiful blue ones, and I had the gratification of—missing as many. Another boat full of Indians joined us,—women and children of course among them. After a fruitless attempt to start any game, the dogs were called together and taken to another island, where they were again put on the scent, but likewise in vain. The capivari meanwhile, in the absence of its young master, made its escape, but was presently caught again. As soon as the dogs were all safely stowed in the canoe, we paddled away with might and main, against the stream and through numerous channels, back to Piranhaquára. Thus ended our tedious and bootless tapir-hunt, from which

we brought home only a few birds, and the Indians some fish which they had shot.

Padre Torquato and Consul Theremin had during our absence visited two Malocas, situated at about an hour's pull above Piranhaquára, called Aráraquahapuhum and Uaquéfuoga, (or Uaquéouocha), from whence they had just returned when we arrived. But scarcely were we all re-assembled, when the company dispersed again, I alone remaining in the hut. This gave me an opportunity of witnessing the curious preparation of the caxeri, which the Indians were making on purpose for us to taste. Three or four pretty Indian women were seated around the vessel containing the mandioca-pulp, and taking a handful out of it they put this into their mouth, chewed, and returned it again to the vessel. Luckily the persons thus occupied were not old women, and the whiteness of their teeth bespoke cleanliness as well as youth, or the sight would have produced a feeling of disgust, which a night's sleep would hardly have sufficed to remove.

The moon shone brightly as we retired to rest. I packed up my little bundle in front of the hut, to the great astonishment of the Indians, who seemed to consider the possessor of these things as rich as Crœsus; but the shining oilcloth especially excited their curiosity, and I explained to them its use as a protection against the rain, which they seemed to understand. An occurrence this afternoon caused us a hearty fit of laughter: as Count Oriolla was changing his shirt, the men pressed round him with great curiosity, to touch his white skin,

and called the women to come and convince themselves that, although so different in colour, it felt the same to the touch as their own dark skin. This showed what strangers they were to the sight of Europeans, although we had been told that three months before our arrival a white man had ascended the Xingú on a trading expedition: my companions understood that he had proceeded only as far as Castanhal, when taking a fever he returned, but I understood the Padre to say that he reached Piranhaquára: this was the only instance known of a white man being seen in these regions.

The insects prevented our sleeping in the hut, and in the middle of the night I went with Count Oriolla into the open air: we lighted a fire, to prepare our chocolate for breakfast. My companion however soon returned to his hammock, but I remained for a long time by the fire, enjoying the beautiful, serene, tropical night. The Southern Cross and the Great Bear were both visible, and the moon was surrounded by a white, oval halo. Perfect silence reigned all around,—every one was asleep, —the young tapir alone was roving about in quest of food. "Tomorrow we turn our faces *homeward!*" I thought to myself, and ere long I likewise sought rest.

We had now reached the extent of our expedition; but before we commence the descent of the Xingú, which will present a rapid but continuous picture of its course from Piranhaquára to its junction with the Amazon,—I will briefly lay before the reader such information as we were able to obtain respecting the upper

course of the Xingú and the tribes that inhabit its shores. We have already observed that this river has its source between 14° and 15° south latitude, on the northern slope of the Serra dos Vertentes, in the province of Mato Grosso. The accounts respecting its upper course, and its passage at first between two ranges of hills, seem as problematical as those relating to its smaller tributaries, among which are named the Rios dos Bois, das Trahiras, Xanaci and the Barahú, the latter flowing from the west. These accounts rest upon the information given by the Sertanistos, who are probably the only authority for the data on which the maps of these regions—surrounded as they still are with great uncertainty—are constructed. Some expeditions have been undertaken, with a view to bring Indians from the upper river to the lower settlements, but few have gone beyond the Iriri; and, with the exception of the voyage of a licutenant in the militia in 1819, from Cujabá down the river to Porto de Môz, there is no record of any expedition from the source to its mouth. Nevertheless the region of the sources of the Xingú acquired nearly two centuries ago great interest, from the accounts given by the celebrated adventurer Bartholomeo Bueno, of the immensely rich mines of gold which he asserted that he discovered in the country of the Aracys*. He indicated the place by a rock, standing close to this auriferous spot, the veins in which, he said, represented in a miraculous manner the implements

* Or perhaps in the neighbourhood of the sources of the Rio de S. João, a tributary flowing into the Araguayá on its left bank. See Corographia Brasilica, tome 1, page 259.

of the passion of our Saviour: but notwithstanding this indication, and repeated searches, the country described by Bueno has never been discovered. Perhaps this adventurer intended to work upon the credulity of his own countrymen by accounts of the miraculous rock, as he did upon the superstition of the Indians, among whom he went by the name of "Anhanguera," or the "Old Devil," which he is said to have acquired by setting fire to some brandy, and telling them that he could burn rivers in the same way. The nature however of the Campos in the vicinity of the Upper Xingú, and its two neighbouring rivers the Tocantins and the Tapajós, indicates more surely than the miraculous rock the real presence of gold in those regions.

The country at a little distance from the river is said to be very fertile, and the climate healthy. If this latter statement, which I do not mean to question, refer also to that part of the Xingú which we visited, I would only mention that a traveller fell sick of fever last year at Castanhal or Piranhaquára, and that at the same time our friend Padre Torquato was similarly attacked. The Xingú leaves Mato Grosso in 8° south latitude and enters the province of Pará. The first tributary which it receives here is the Iriri, flowing south-west from the country of the Arinos, and falling into an arm of the Xingú near the hut of Carlos. The Iriri appears from the maps to be the largest tributary of the Xingú, surpassing the Tucuruí in length. On ascending the Iriri, a footpath similar to the "Estrada," between the Tucuruí and Anaurahy, connects that river with a tributary of the Tapajós

or Rio de Santarem, as it is here called. The country of the Arinos belongs to the province of Mato Grosso, lying west of the Upper Xingú, whilst the region east of this river, quite as unknown as the former, and extending to the Arăguayá (the western arm of the Tocantins), is called the Comarca Tapiraquia. In the province of Pará all the country between the Xingú and the Tocantins on the one side, and the Comarca Tapiraquia and the Amazon on the other, is called Xingutania; whilst the country situated on the left bank of the Xingú was once called Tapajonia, which comprised the extensive regions between the Xingú, Tapajós, Amazon, and the district of the Arinos.

With the exception of the numerous rivulets crossing the "Estrada," we have neither heard of nor seen any river falling into the Xingú between the Iriri and the Tucuruí,—a circumstance which may be ascribed to the great breadth of the river and the numerous islands in it. Nevertheless the small rivers dos Arinos, Itoma, Ita-bagua, Pacaxa, etc. may possibly exist, which we find marked on the maps as rising in the forests of Xingutania, and joining the main-river near the Cataracts.

Not more is known of the tribes who inhabit the banks of the upper course of the Xingú, with the exception of the Jurúnas. The earliest accounts which Southey gives of this tribe go back to the middle of the seventeenth century. Soon after the Jesuits regained possession of Gurupá, which they had been compelled to abandon for a short time in 1655, Manoël de Souza proceeded up the river, and laboured among the Jurúnas or black-lipped

Indians,—a tribe distinguished from the Tupi tribes in many respects, but especially by their language: they exceeded the ordinary stature, and, unlike other Indians, were very industrious: their faces were tattooed with a black stripe from the forehead to the upper lip, where it divided, encircling the mouth: the higher the rank of the person, the broader was this stripe, and the chieftains blackened their whole face. The Jesuit missionary laboured very successfully among these people; they sang litanies the whole night through on Good Friday, and inflicted chastisement upon their bodies during the processions, to his heart's content*.

A few years later, when a detachment of troops was stationed, for the protection of the slave-trade, at the mouth of the Rio Negro, where the Villa da Barra do Rio Negro was soon afterwards founded, the Juripixunas, or Jurúnas, with other kindred tribes, were brought to this place. Von Martius tells us that "these Indians are distinguished by a black tattooed spot (*malha*) on the face; they are mild and docile in manners, and, although greatly reduced in number, are preferred to all others as rowers and labourers†."

Southey mentions a victory which the Jurúnas obtained some years afterwards: Gonçalo Pacs de Araujo‡ in his predatory expeditions, arrived in 1686 in the country of the Taquanhapes (Taconhapéz ?) and the Gerunas (Jurúnas), who inhabited the shores of the Xingú.

* Southey's History of Brazil, vol. 2, page 510.
† Spix and Martius' Travels, vol. 3, page 926.
‡ Southey's History of Brazil, vol. 3, page 7.

Notwithstanding that these tribes had been on good terms with the Portuguese, the latter now drew them into an ambush, and one Portuguese was slain. The Indians in the service of Gonçalo Paes fought to the last man; thirty of the tribe of Caravares, who were friendly to the whites, fell on this occasion, exhibiting equal courage and fidelity; and Gonçalo himself being wounded, his whole detachment took to flight. Other tribes, incited by this courageous example, now took up arms, and the Gerunas manned a fleet of above thirty boats, bearing as a standard in the canoe of their cazique the head of the slain Portuguese, Antonio Rodriguez.

From their predilection for living in boats, the 'Corographia Brasilica' classes the Jurúnas, together with the Nhengahybas (the original inhabitants of the island of Marajó), the Tupinambás, the Mammayamás, and the Guayanás, with the Igaruánas, as the tribes are called who live in *igáras*, or canoes, in contradistinction to those Indians who dwell in the forests remote from rivers*. The recent history of the Jurúnas would probably not exhibit the same warlike character or exploits as the close of the seventeenth century; they exact revenge only in cases of bloodshed, and seem to prefer living on islands, where they are comparatively secure against their enemies: they are however well supplied with weapons,—chiefly bows and arrows, which we shall briefly describe.

The bows are nearly seven feet long†; they are made

* See Corographia Brasilica, tom. 2, page 261.

† These measurements are taken from the bows and arrows which I brought away with me.

of a tough, heavy wood, brown or black, slightly rounded on the outside, and edged or smooth on the inner side,—differing in this respect from those of the Puris and Coroados on the Parahyba, and the half-civilized Indians on the Amazon and Lower Xingú, which are perfectly round. The strings are formed of the bast of trees, and stretched incredibly tight. The arrows are made of light reeds, about six feet long including the points, and generally winged with macaws' feathers: they are pointed variously, according to the object they are intended to strike: some have flat, two-edged points, made of hard wood, twenty-one inches long, and an inch and a quarter in breadth; these the Jurúnas use in war. Again, there are others, six and a half to eight inches long and three-quarters of an inch broad, also with two-edged points, made of wood, and frequently poisoned, rounded on one side and grooved on the other; these are used in hunting jaguars and tapirs. A third arrow, likewise made of wood, twenty-two inches long, is round and furnished at the end with a sharp bone; a hollow wooden ball is fixed where the head commences, which produces a whistling sound in flying through the air: the Indians discharge these into the trees, to scare the birds, and enable them to shoot them on the wing. For the birds themselves they have still another arrow-head, consisting of a simple rod seventeen inches long, which they always sharpen before using it. Again another kind, for shooting fish, differs from the former only in the point being made of a sharp bone, to which is fixed a second that serves as a barb. The sixth and last kind of arrow

resembles the former, except that it is not feathered; the reed is thicker than in the others, and the thin round point of wood is twenty-two inches long: these arrows are also used for shooting fish, and being very buoyant they draw the prey when struck toward the surface of the water. These various arrows are however used indiscriminately, as occasion requires.

It is highly interesting to watch the Jurúna following the chase, his proper element,—imitating the notes of the birds, or pursuing the game with an eagle's glance, and stealing upon it noiselessly over the fallen leaves and through the close thicket; or again watching the fish as it shoots past, when not a ripple stirs the water, and transfixing the prey with his long and sure arrow.

According to Padre Torquato, the number of Jurúnas amounts to about two thousand; they are therefore one of the larger tribes, and are reckoned among the "Indios mansos," or those who are neither cannibals nor hostile to the whites. They live, as we have seen, in roomy and comfortable huts, constructed of palm-leaves, three families usually occupying one dwelling. They are faithful in marriage, though some have several wives, and they occasionally transfer them either temporarily or altogether from one to another. They grow cotton, which the women spin into thread, and manufacture into hammocks or aprons on a large wooden frame: they also prepare Assú-oil, and rear domestic animals, fowls, dogs, etc. The simple products of their industry they barter at Souzel for axes, knives, and facões; the blades of the latter reminded me strongly of the Schaska-blades of the

Tscherkessians, who assert that they are of Spanish manufacture, although they are said in great part to come from Solingen, as likewise the facões in the province of Pará: this will account for their similarity in appearance.

The food of the Jurúnas consists, beside game and fish, principally of plantains, made into a kind of soup with water and Indian pepper or capsicums, and also of farinha, which they, like the half-civilized Indians on the Lower Xingú, prepare variously. The inhabitants of Tavaquára treat the mandioca-flour in six different ways. The "farinha d'agoa" is made as follows: the roots of the mandioca are steeped in water, until they begin to decay; the skin is then removed, the roots are squeezed with the hands, and put into a vessel, with a contrivance for the water to flow off: here they are left to dry, until they grow quite hard, when they are rubbed with the fingers, and afterwards roasted in large cujas or gourds, till they become a large-grained powder. This farinha d'agoa, though less esteemed, is more easily prepared, than the "farinha secca," or "farinha pão." The latter is chiefly eaten in the southern provinces, where it is prepared in the following manner: the fresh roots are cleaned, scraped, and rasped on a grater, instead of which a piece of the trunk of a tree covered with prickles is sometimes used. The juicy flour is then put into a long cylinder, of platted palm-leaves, called "tipiti," from six to seven feet long and a few inches in diameter: these cylinders are placed upright, and the weight of the flour causes the poisonous juice, called

"tocupui" and containing prussic acid, to flow off. After the farinha is sufficiently dried, it is removed from the cylinders, and roasted in the same manner as the farinha d'agoa. It is usual to mix about one-third of the farinha secca with two-thirds of farinha d'agoa, to combine the excellence of the former with the facility of preparation of the latter.

The third product of the mandioca-root is the well-known tapioca, a kind of sago. The tapioca, dissolved in boiling salt-water, and mixed with some tocupui, yields tacaca. Mingáo on the contrary consists only of a mixture of farinha with warm water and salt. The caxeri may also be numbered among the products prepared from mandioca.

Beside the Jurúnas, the Taconhapéz*, as already mentioned, inhabit the shores of the Upper Xingú: they seem to be less numerous, but according to the accounts we received from the Padre, which are given here nearly in his own words, they closely resemble the Jurúnas in customs and manners. Next come the Axipai, a small tribe, who are gentle in manner, but cowardly in war and easily vanquished. The Peapai are a numerous tribe, and especial enemies of the Jurúnas and Taconhapéz. The same may be said of the Curiérai, the nearest neighbours of the three first tribes, with whom they are always at war.

All these tribes are "Indios mansos," but the follow-

* It need scarcely be observed, that in this name, as well as in all others referring to Brazil, I have followed the Portuguese orthography.

ing are considered cannibals,—or, properly speaking, they are simply wilder and of a more hostile disposition. The more numerous among them are the Baburadei, Juadei, Hipadei, Hibai, Henacumbai, Mafuradei, Arupai, Abuirafufui, Uirateua, Anenuai, Ticuapamoin and Impindei. The Ticuapamoin are larger in stature than the rest, and are therefore called "Tapui-uassú" or the "tall people;" they are excellent archers, and, if I understood rightly, armed with spears, and are therefore much feared by the Jurúnas and other tribes on the Upper Xingú. The Impindei are small in figure, and their huts so low that a man can easily touch the roof: they live in the neighbourhood of Campos, where, according to the report of other Indians, they rear cattle and horses; in proof of which assertion, they have shown the Padre large horns taken from the Impindei. The Pazudei, Taguendei, Thadei, Uxadei, Uaipi and Muruana, belong to the less numerous tribes.

I cannot hope to have removed the darkness which envelopes the ethnography of the upper regions of the Xingú, by the enumeration of these twenty-three tribes; but rather flatter myself on the contrary, that by this catalogue of strange-sounding names I may have considerably increased the reader's perplexity.

December 13*th*.—We left Piranhaquára at sunrise, and rowed down the stream with great rapidity, hastening toward the ocean and the 'Growler,' and nearer still the Igarité. In imagination only we could picture to ourselves our far-distant home; nevertheless we were now for the first time turning our face toward it again.

We almost regretted not to be able to ascend higher up the stream, and penetrate deeper into those unknown and attractive regions. How many of the numerous tribes residing there may never have come into contact with Europeans! But above all others we should have liked to visit those "tall men," the cannibal Tapuiuassú, the terror of the friendly Jurúnas; this however was out of the question, as it would have required several months to accomplish.

It was half-past six o'clock in the morning when we left Piranhaquára: the inhabitants assembled on the bank of the river and gazed after us for a long time; some even accompanied us for a distance in their canoes. Near the island before mentioned, the course of the river is N. by E., while the Serra that approaches here close to the left shore, stretches from W.N.W. towards E.S.E. The right bank of the Xingú rises to a height of several hundred feet, and is covered with tall forests, with here and there a solitary palm. The larger of the numerous islands near Piranhaquára are covered with forests, and the smaller ones with thick copse, which in many places rises out of the river itself. Most of the islands have apparently a sandy soil, although this only comes to view occasionally in small prayas. The rocks rising above the river consist of gneiss or gneiss-like granite.

We passed Jacuí at nine o'clock A.M. and after a voyage of four hours reached Castanhal. According to my reckoning we made on an average about four and a half nautical miles an hour, drifting along with the cur-

rent, which varied in force. This would give a distance of four and a half (eighteen Engl.) miles from Piranhaquára to Castanhal. The direction of the river is on the whole N. ½ E. with scarcely any turns, the different reaches being N. by E., N.N.E. and N. We dined at Castanhal off the capivari caught yesterday, which by general consent was pronounced to be the greatest delicacy we had tasted on the Xingú, even surpassing Count Bismark's splendid macaws.

About an hour after leaving Castanhal, we observed that the Xingú, which had hitherto flowed principally N. ½ E. from Piranhaquára, took a N.W. direction to the "Casa do Carlos," where one of its branches (into which the Iriri is said to flow) again joins the main-stream. The mouth of this branch, coming from the west, lies nearly three (eleven Engl.) miles below Castanhal, and it took two hours and a half to proceed this distance. The range of hills on the right bank of the Iriri stretches from W.S.W. to E.N.E., and probably indicates the direction of this tributary. At two o'clock P. M. we reached the Casa do Carlos, and in about another hour the "Ponta," where we had spent the memorable mosquito night. The direction of the river had hitherto been N. by W.,—from this point to Piuntéua it lay nearly E*.

We had waited a long time in the middle of the stream, until the other boats had assembled, and it was

* This small bend eastwards is caused by a hill lying opposite the island N.N.E. from the Ponta.

near six o'clock P.M. when we reached the rocky island. On the ledge of granite at its western point, and in front of the hut, we made a fire and got our supper. The sun set with a dark-red glow behind the forests at the back of "Carlos," clothing the flat rocky islets and broad stream in a crimson light: it was quite a Swedish landscape. In a short time the moon rose, and shone into the roofless hut, where we passed the night in company with the Jurúnas. The Padre, more prudent, had slung his hammock deeper in the forest, and escaped comparatively from the attacks of the mosquitoes, which tormented us cruelly. At last they fairly drove me and the Doctor from our hammocks, and at midnight we stepped outside the hut and kindled a fire. All was still and noiseless around; the surface of the Xingú reflected the moon's beams, but deep darkness brooded over the forests on the adjacent bank.

December 14*th*.—We left Piuntéua very early this morning, but I cannot say precisely the hour; for on seeking to note the time as usual, Count Bismark communicated the distressing news that his watch—the last which had hitherto continued to go—was just broken! We were therefore now obliged to reckon the time by the sun, like the Indians, who, when they wish to indicate a particular hour, point to the place in the sky where the sun would be about that time.

Two ranges of hills approach the left bank of the river near Piuntéua, connected at their base. We passed these and a succession of other objects, carried swiftly along by the strong current, and at nine o'clock A.M. accord-

ing to our reckoning, we reached the "Casa do Martinho," or Urubúquára. Here we were obliged to stop till about three o'clock in the afternoon, waiting for Martinho, who had remained behind to catch fish for our men. Meanwhile we embarked the various objects that we had purchased, and amongst others a number of monkeys and some parrots. Martinho at length arrived, and we now kept to the middle of the river. Its direction from Piuntéua to Urubúquára appeared to lie between N. by E. and N.N.E.; for a short distance it flows E., and afterwards follows a N.E. direction to the Caxoeira Cavitia: from thence to the Caxoeira Cajutéua, the fourth above Tavaquára, its course is N.N.E. It is often difficult to discern the shores, and these bearings are therefore only approximate; it may however be asserted, that the general direction from Piuntéua to the last-named Caxoeira is N.N.E.

Just before sunset we touched at an island covered with tall forests, in which we descried some monkeys. Count Bismark and Padre Torquato each shot a guaríba. We supped on board our boats, near the island of Taconhapéz, continuing our course slowly in the bright moonlight toward the Caxoeira Cajutéua. From hence the river flows in a northerly direction, to within a short distance of Tavaquára, where it turns for awhile N. by W. It was probably past midnight when we reached this Maloca. I was the first to climb the steep bank, and was joyfully welcomed by the Jurúnas, who offered me a place near their fire in front of the hut: the old Pagé was especially cordial. Here we waited

for the other boats; the poor Doctor, who had been with me in the same canoe, was in a pitiable state of exhaustion from the long voyage. After sitting here for some time, we stretched ourselves around the fire in the hut, and I soon fell sound asleep.

December 15*th*.—The canoes arrived, one after another, during the night: Senhor Roxa alone, with the cargo of treasures we had obtained from the Indians, was missing, and this compelled us to wait until evening. There were still many things which we should have liked to purchase here, at this last Maloca of the Jurúnas; but we were obliged to limit our bargains, finding to our regret that we had nothing but money left: sad news this—nothing but money! But here, in these backwoods, remote from all civilized society, one is made to feel the merely conventional value of money: we now longed for glass-beads, axes, and knives, as much as the Jurúnas themselves, for in fact these are the only articles of current value. Roxa at length arrived,—we had begun to doubt his honesty: very probably he had passed the night of the full moon in some remote hut, drinking caxeri, as it was just the time of the Jurúna feast.

We now selected the two strongest ubás for our further voyage, and embarked only the most necessary articles: the other effects were sent by our sailors (the negro alone remaining with us) and some of the Indians, under the command of Roxa, by way of Porto Grande, and thence along the Estrada to the Igarité, which was awaiting us in the Tucuruí. We gave directions that the Igarité should proceed to a small island

in the Xingú called Castanhal, below the caxoeiras, intending ourselves to follow the course of the river and visit the cataracts.

I may here enumerate the different distances along the Xingú, between Piranhaquára and the junction of the Anauraliy (Porto Grande), calculated by the time which it took us to accomplish them :—

From Piranhaquára	Nautical Miles.		
to Jacuí	$11\frac{1}{4}$	18	...Dec. 11th.
„ Castanhal	$6\frac{3}{4}$		
„ Casa do Carlos	$11\frac{1}{4}$	$15\frac{3}{4}$	...Dec. 10th.
„ Ponta	$4\frac{1}{2}$		
„ Piuntéua	$6\frac{3}{4}$	$16\frac{1}{12}$	...Dec. 9th.
„ Casa do Martinho	$9\frac{1}{3}$		
„ the Caxoeira Cavitia, third rapid	8	10	...Dec. 8th.
„ the bivouac of 7th–8th December	2		
„ the islands of the Taconhapéz	$5\frac{1}{2}$	18	...Dec. 7th.
„ the fourth Caxoeira	2		
„ Tavaquára	$10\frac{1}{2}$		
„ Porto Grande		10	...Dec. 5th.

Making a total of nearly eighty-eight nautical, or about twenty-two German, miles.

During our voyage from Piranhaquára to Piuntéua on the 13th of December, which took nine hours, I reckoned that, deducting delays, we descended the stream at about four and a half nautical miles an hour: this may be taken as the average velocity of the current. Hence the distance between Piranhaquára and Piuntéua is forty and a half nautical miles. It had taken us nearly twenty hours to accomplish this distance against the stream, not

reckoning the delays at the Caxoeiras, etc., and assuming two nautical miles as the average speed against the stream, we have nearly forty nautical miles. The difference between the two results is therefore trifling. Since our last watch had stopped, we had lost this means of measuring the distance between Piuntéua and Tavaquára, but I think we shall not be far wrong in assuming two nautical miles as the average speed of our voyage up the stream, on which supposition the distances between Porto Grande and Tavaquára to Piuntéua are calculated. The journey by land from Porto Grande to the Tucuruí, according to our reckoning, is about thirty-two nautical miles, and the distance from Tucuruí to Souzel twenty-seven. The whole distance therefore between Souzel and Piranhaquára would amount to nearly one hundred and forty-seven nautical miles.

With still less exactness can I state the distance from Tavaquára to Souzel, on the great bend of the Xingú, since we navigated this part of the river only once, the velocity of the current varied continually, and we had moreover continually to leave the boats and carry our baggage over the rocks, while the canoes descended the rapids. It may be imagined that this caused much loss of time, and great irregularity in the distances we proceeded during the day. But it is time to continue the account of our voyage.

Two large ubás, from thirty to forty feet long, were selected on account of their solid bottom (six to eight inches thick) as the best adapted for the descent of the caxoeiras. In the first of these were seated our whole party,

with the Padre's lad, two steersmen or pilots, and four paddlers, including the negro. The second large ubá was covered with a *tolda*, or roof, made of palm-leaves, and contained all our purchases of Jurúna weapons and utensils, and stores of farinha: the Padre's young tapir went in it as passenger. Two men steered the boat, and two paddled,—one of the latter an old Indian, with a black stripe across his face. Two Jurúna women, following their husbands, and a girl, were also seated in this boat. Martinho with his light canoe had rejoined our expedition, accompanied by his wife, little boy and daughter: an Indian assisted with the paddles. In proceeding down the stream, the boats were of course not propelled by poles; they were often left to drift along the current, when the paddles were used chiefly for steering their course.

We started between four and five o'clock P.M., after taking on board some farinha, part of which we had been obliged to procure from Porto Grande. The sun had set, and the moon was just rising, (it was therefore perhaps nine o'clock) when we reached a small island in the middle of the river, distant about two leagues from Tavaquára, named Anauréua. We lighted a fire and cooked our supper on the small praya, slinging our redes in an old rancho; whilst others of our party penetrated further into the forest, to select their sleeping-place, or lie down around the fire.

December 16th.—We breakfasted early this morning, as the moon was waning, and at daybreak resumed our voyage. From the commencement of the great bend,

close to Tavaquára, as far as Anauréua, the course of the river was easterly: it now became S.E. We were consequently near the place where, coming from Porto Grande, on the 5th of December, we had rejoined the Xingú. The rapid stream carried us swiftly toward the range of isles which I have before described, while a concert of howling-monkeys enlivened our voyage. The upper river nowhere appeared so wide as here; we estimated its breadth at from four to six nautical miles. The shores are here higher, and more easily discerned, although occasionally single islands rise like hills from out the mighty river.

Our canoes were carried along with great velocity, the Xingú here forming an almost continuous rapid: the islands approached more closely, and shut in the prospect. At length we entered a channel several hundred paces broad, the high banks of which were covered with primæval forest, vying in magnificence with the forests of the Parahyba and the Serra near Novo Friburgo. Among the tall trees, most of which yielded resin and gums, we observed large groups of Jauari-palms, whilst the upper outlines of the trees assumed the most fantastic forms. Here, the leafy crown of one of these patriarchs of the forest rose above the undulating masses of foliage, surrounded grotesquely by tangled lianas, with something the appearance of a gigantic tuft of ostrich-feathers; in another place, the thick, light-coloured foliage resembled the huge crest of a Roman helmet, standing out above the trees, and overshading the dark masses of their trunks. Surrounded by this grand forest solitude, we stopped at

a small island with an inviting praya, where we breakfasted, and it was noon before we again took to our boats.

The channel had hitherto in general retained its S.E. course, but from this point, opening into a broad and rapid torrent, it swept along in a S. direction, at times even inclining S.W., until after a few hours it expanded into an ocean-like basin. Here we had a fine open prospect, bounded by a range of blue hills in the distance. We now for the first time (about an hour before sunset) obtained a distinct idea of the course of the Xingú from Anauréua. Since this morning it had flowed southward (S.E., S.S.E., S. and S.S.W.), and on reaching the open country it described a great bend, first E.S.E., and afterwards E. The blue hills extended along the right bank, and forced the river, as we shall presently see, to turn from its easterly to a north-east direction.

Soon after the moon had risen, we landed upon an island on our right. A tree thickly covered with foliage, and with wide-spreading arms, afforded us shelter for the night. We all slung our redes to its branches, partly supported by poles, so that the tree was surrounded by a complete labyrinth of hammocks. I awoke in the calm moonlight night, and went to stir the fire; and the Doctor, who as usual could not sleep, presently joined me. There was no more dry wood, but the resinous and fleshy leaves of our tree made a brisk crackling fire.

December 17th.—We left the small island at sunrise; the Xingú is here from three to four nautical miles in

width, and soon commences its second principal bend, first N.N.E. and afterwards N.E., the blue Serra we saw yesterday evening stopping its course and extending afterwards along its right bank; the left shore is likewise hilly, and numerous flat, bushy islets are scattered over the river. We passed several small caxoeiras, similar to those above the great bend, and in a few hours reached the wooded and sandy island of Tapiiraquára, where we agreed to wait for Martinho our hunter and fisherman. I was standing near the fire beside an old rancho, busied in preparing rice, when a cry was raised that the recent footmarks of a tapir had been discovered on the island. The child's paddle, which served as a laddle to stir the rice, was quickly handed to the Doctor, and seizing a gun I jumped into the nearest boat, and with the aid of Rapasinho paddled round the island to another praya. At this place I caught a glimpse of Count Oriolla and the Padre, but they disappeared the same instant in the neighbouring thicket; the rest of our party had posted themselves round the other side of the island. The footmarks of a large tapir were traced from the woods across the sandy shore to the river. In the hope of meeting another anta I made my way into the thicket, creeping on all-fours, and soon came up with Count Oriolla, but the tapir had escaped to the river. My companions stole along softly toward some monkeys, which were making a noise up in the trees; but again we were disappointed, for the quick and cunning animals made their escape. A bath in one of the side-branches of the river, which surround Tapiiraquára, cooled our

ardour, and some fine fish (chiefly Tucunarés) which Martinho brought us made up for our ill success.

Below this island the Xingú flows north-west, a range of hills extending along its shores, while numerous bushes raise their heads above the river, and masses of rock lie scattered over its surface. A canoe filled with Indians was contending against the stream, but it remained at a distance: our Jurúnas recognized in it the Pagé of Piranhaquára—the owner of the feather-cloak I mentioned—returning from Souzel. This was the only instance of our meeting any person in the desert tract between Tavaquára and the first huts beyond the Caxoeiras; and how many days may this boat have proceeded on its voyage before again meeting any human being!

High wooded islands here narrow the stream, which forces a passage between them in a northerly direction. The beautiful and varied forms of the trees of the long island on our left excited our admiration; we also observed again for the first time the Uauassú-palms among the forest-trees, the Jauaris having for some days past taken their place. We now heard the rushing sound of waters, and proceeding in that direction, the boat was caught by a rapid current, which carried us toward some large masses and shelves of rock overgrown with bushes; by turning however to the right we escaped the foaming rapid. It was about four o'clock in the afternoon when we laid the boats alongside the rocks, where they were unladen, in order to lighten them for the passage of the Caxoeiras. We jumped on land, climbed over the blocks of granite, waded through rushing streams that forced

their way among the rocks, and holding on by the bushes at length reached a large block, which commanded an open prospect: here we stood overlooking the largest cataract of the Xingú, the Caxoeira Juruá.

The mighty river, at least a thousand paces in width, is precipitated with the roar of thunder from twenty to thirty feet, partly over steep rocks, and partly over inclined shelves. In the centre of the fall, on the ridge above, stands a tree, with a rounded crown. The great mass of rocks below divides the broad cataract into two parts, and the basin-like expanse at its foot is one sheet of foam. Long lines of mountains, with gently undulating outlines and covered with thick forests, form a dark frame to this picture.

It was now necessary to convey our effects over the rocks, to a sandy spot below the Falls, where they could be re-embarked; unluckily the boots and shoes of our party were in too bad a condition for such work. It pained me extremely to walk barefooted on the pointed rocks, as my feet were much swollen by the heat; nevertheless we had frequently to repeat this scramble, which gave me at least an opportunity of inspecting the rocks closely: they consisted in some places, one half of coarse granite, and the other half of fine-grained gneiss*.

Our ubás were meanwhile carefully lowered one after another by the side of the great Fall, by means of the

* Either here or at another cataract of the Xingú I found, besides granite and gneiss, a red porphyry which in its structure is said to resemble the Hornstone-porphyry of Elfdalen in Sweden.

little streams that force a way through the masses of rock. A strong liana was fixed to the stern of the boat, and held by twenty or thirty men, to break the descent of the canoe and cause it to slide down gradually. Two Indians remained sitting in the boat to guide it. Just as this toilsome operation was finished the sun set, and we were obliged to encamp for the night on the small praya, where, notwithstanding the rushing noise of the cataract and a shower of rain, we slept soundly.

December 18th.—After a somewhat longer rest than usual this morning, our encampment was soon broken up, and we embarked again in the boats. It was not until we had passed the cataract some hundred paces, that we observed that we had seen yesterday only its western half, and that to the east of the rocks where we had passed the night, and which we now recognized as an island in the very middle of the Falls, there was another arm of the river of equal breadth roaring and foaming over the rocks. Dark, lowering clouds hung over the scene. From this first cataract the river flows N.W., but high wooded islands soon divide it into numerous branches and shut out any open prospect. The channel which we followed turned east, forming a short rapid, and ran past a praya, where we stopped, to give the men time to breakfast before we reached the next Caxoeira.

We soon found that this short rest was well-timed, for directly below our halting-place the small north-eastern branch of the Xingú became a turbulent stream, and all the attention and skill of our Indians were required to steer the boats safely through the rocks, while the waves

washed continually into our ubá, so that early in the morning we were completely wet through. The rocks increased so much in the narrow bed of the river, that at one place the boats had to be unladen before they could pass; we had therefore to carry our baggage and follow the canoes by jumping from rock to rock. Hardly had we re-embarked when we came to another similar passage, until a third portage brought us to the charming Caxoeira Caixão (Caxão).

In the midst of these wild scenes, where for some hours past the view had been shut in, the small branch which we navigated rushed like a mountain-torrent over rocks and was precipitated to a depth of ten or twelve feet. Trees and shrubs projected over the stream, shading this lovely spot, whilst high dark-green walls of tangled foliage and creepers, overtopped by magnificent Uauassú-palms, closely encompassed this charming picture of wild solitude. We seated ourselves here upon the rocks, and watched our boats as they were lowered down the falls. Looking from this still and peaceful spot upon the dark surface of the clear and rapid stream, with which the white foam of the little fall contrasts so agreeably, who would have imagined that we were sitting on the banks of one of the gigantic rivers of the New World? Whether the other branches of the Xingú are mere rivulets like this, or form large falls, I am unable to say, for it was not till we had proceeded a considerable distance below the Caixão that the banks of the river were visible, between the numerous bushy islands, its general direction being here northerly.

The sky grew more and more clouded, and in addition to the wetting occasioned by the waves, we had now the pleasure of enjoying a fall of rain. After proceeding thus for two hours with great rapidity, we came to another praya on our right, where we made a longer halt, to await the Consul, who had today taken a seat in Martinho's canoe, in order to lighten our heavily laden ubá, and perhaps in the hope of enjoying some sport.

Upon this praya we found some poles fixed into the ground, from which we suspended our redes; but after waiting a long time in vain for the arrival of our friends, till the afternoon, we pushed off again, the rain falling in torrents. We now rowed in and out, through narrow channels and among bushes, which prevented our observing the true course of the river, until at length we entered an interminable reach, as straight as any Dutch canal, passing through a grove of myrtles (Eugenias). The stream flowed in a northerly direction into this main branch, which Martinho called the Eaú, with the swiftness of an arrow, and forming numerous eddies, so that it was scarcely possible to steer the boat and prevent its swamping. The view extended over the immense forests, to the distant hills on the opposite bank of the river.

Two smaller channels soon afterwards crossed the main branch, and we were borne swiftly along toward the third Caxoeira. The floodgates of heaven seemed to have opened, and the swelling of the river showed that the rainy season had for some time past set in near the sources of the Xingú. This season generally commences

in November, and continues until July: Von Martius observes, that the Xingú rises during this period thirty-five feet above its lowest level. In consequence of the swollen state of the river the Indian pilots were afraid to pass the cataract in the main-stream, especially as Martinho, the most experienced pilot in these parts, was not with us. They thought there was a side-channel, by which the passage might be made with less danger; we therefore turned to the left, among the bushes, and worked our way slowly along, sticking fast at every moment.

This was toilsome work for the "Carga," which, but for the powerful Indian who had charge of it, would have been completely fixed: its roof was several times pressed in, and in constant danger of being swept overboard, together with all the freight. After groping our way through numerous windings in the thicket, we at length heard the roar of a cataract; and leaving our canoes we scrambled over the rocks, not without difficulty, in the direction from whence it came, and soon found a small side-branch falling over ledges of rock, and forming waves from five to six feet high. Upon a careful examination, our men considered it too perilous to risk the passage of these Falls, and as the day was closing in they advised that we should seek a resting-place for the night. We wandered about for some time in this inundated labyrinth of myrtles, till we came to a small plot of stony ground, overgrown with bushes, where we agreed to encamp. Shivering as we were with cold and wet, and almost famished, this resting-place was most wel-

come. We formed a tent of the sailcloth, lighted a fire, and warmed ourselves with some cups of tea. After awhile the rain abated, but awakening continually, I jumped up to stir the embers, and look after our wet clothes which were hung up to dry. The moon's rays struggled through the heavy rain-clouds,—every one was fast asleep, and perfect solitude reigned around.

December 19th.—Refreshed by our rest, we breakfasted at an early hour this morning, and then reembarked. After rowing about for some time in the myrtle-grove, we again entered the straight main channel, which we now followed.

The roaring sound of waters soon indicated the vicinity of the Caxoeira Acahitéua. The channel now turned abruptly W. and S.W. for a little distance, and then resumed its former straight course, forming a sharp bend, which much increased the velocity of the current, and led us to suppose that the rapids were near at hand. Our men were doubtful how to pass the falls, and we turned to the left among the bushes. Martinho's presence was now more than ever required, as he alone knew the proper passage, and in his light canoe might have reconnoitred the best point where the heavy boats could pass. All at once a dark figure stood before us among the bushes, as if risen from the river,—it was Martinho, whom we at once recognized by his moustachios: he instantly jumped into our ubá, and undertook to guide it safely. We halted in a few minutes; the boats had to be unloaded, and we toiled with our baggage over the rocks, which here narrowed the river to a width of only

a few hundred paces. While thus engaged we descried Mr. Thieremin perched upon a projecting rock, busy sketching, and were soon at his side.

From this point there was a view of the whole Caxoeira. The stream here rushes along with high waves, as if the flood-tide were setting in, flowing over a rocky bed into this straight channel, a distance of one or two nautical miles. On its right, forests descend to the edge of the river, which is covered with the foam of the rapids: the left shore is bordered with myrtle-bushes, and huge blocks of granite and gneiss lie scattered about in confusion.

At a short distance below this rapid we came to a second, where we had again to unload the canoes. The Doctor had remained on board in passing the previous falls, but I now took his place, partly to witness the navigation, and partly also to rest my swollen feet. One instant the ubá glided along between the rocks, and in the next it was borne on the top of the waves, the Indians all the while exhibiting great dexterity in steering and keeping us off the rocks. The Padre's tapir, poor beast! stowed in the head of the boat, was so frightened that it tried to jump overboard, but Rapasinho kept close to it and held it back.

The Indians now debated whether it would be better to continue our voyage with the freighted ubás down the remaining Caxoeiras, or to send all the effects overland and follow the course of the river with empty boats. They reckoned that the land journey might be accomplished in two or three hours; but to this we did not

agree, knowing from experience the difference between an Indian *picada* and a footpath according to our notions, and that it is safer to proceed in a straightforward course in such regions.

Martinho's wife took advantage of the time while the boats were being again freighted, to dye her husband's white dog red (a colour for which the Indians have a great predilection,) with the juice of a plant; she afterwards painted her bracelets and those of her pretty little girl, who had also some red rings painted round her temples and stripes on her arms. The mother then performed a more painful operation, pulling out her daughter's eyebrows and eyelashes, which the child bore with great firmness and resolution: a young girl of her age begins to bestow care on appearance, and this was a sacrifice at the shrine of vanity, for even the ladies of the South American forests are not proof against the influence of this passion.

Mr. Theremin was greatly pleased with his voyage in Martinho's canoe, and had shot various animals; but he was especially interested in conversing with Martinho about the manners and customs of the Jurúnas, and watching the lad's skill in shooting fish. "The Deserter's" wife and daughter had prepared a comfortable meal, and the encampment near the Caxoeira Acahitćua was well-chosen: these friendly people also provided their guest with a hammock, his own being left in our boat. Martinho told the Consul many particulars of the country they passed through, and that the Eaú divides into two branches at its northern end, one of which,

called Ananaindéua (Anauraiaéua), continues like the main-branch in a northerly course, forming afterwards the cataract of the same name; while the Acahitéua, which we followed, turns sharply W. and S.W. as has been already observed.

The whole forenoon was spent in passing the last-mentioned Caxoeira: at length we embarked, and were carried along with the velocity of an arrow, following the straight channel W. and S.W. under a burning sun. I dropped asleep for a short time, and Count Oriolla meanwhile observed the compass; when I awoke we were gliding swiftly through magnificent forest scenery, the channel taking a more northerly direction. For a few minutes the prospect opened, but soon the river, narrowed by numerous islands to a width of only ten feet, rushed along like a mountain-torrent, forcing its way among the masses of rock that opposed its course. Once more we had to unload the boats,—thank heaven for the last time! the long-desired "ultima Caxoeira" of Tapajúna, or Taiuma, lay before us.

After cutting a number of poles and thick branches, our Indians set to work with their united strength to convey the first ubá over the rapid. Only two strong men remained at the bow of the canoe, to guide it and prevent its running against the rocks: the rest stationed themselves near the stern, to push the boat along, or to keep it back by means of strong lianas, according as the river was shallow and rocky, or the current deep and strong. When the ubá occasionally got fast, or was stopped by rocks, the poles and branches were placed

under it and served as rollers. Meanwhile the Indian with the stripe across his face, leaped from rock to rock, with his bow in his hand, seeking the best passage for the boat, till he came to a point where the small branch of the river falls about ten feet into a basin. The stream swept the boat like an arrow toward this spot; the two men near the bow swung themselves into the ubá, which darted down into the foaming eddy at the foot of the little fall. Above an hour elapsed before all the boats had safely passed the rapids: we then re-embarked with expedition, glad enough to escape from the rocks, which were heated by the sun's rays.

We had passed the last fall of the Xingú, and reached the point where the flood-tide becomes perceptible,—the last wave of the mighty ocean which unites the distant ends of the world. We emerged from the mysterious gloom that envelopes the forests along the upper and middle course of the river, passing the last barrier that separates the wild fastnesses of the interior from the regions of semi-civilization,—the line of division between the rapid, foaming forest-stream, rushing along with all the unchecked impetuosity of youth, and the majestic Lower Xingú, flowing like an inland arm of the ocean into the gigantic Amazon.

After a sultry day the cool of evening was most welcome and refreshing, as we crossed two basins, closely succeeding one another. Beside the forest-stream which we had been following, five others flowed into the first of these basins; whilst a broad arm of the river, sweeping along between high walls of rock, emptied into the

second basin, with a small rapid near the junction. The numerous islands prevented our having a full view of the Caxoeira Tapajúna, immediately below which the Xingú turns westward; and after passing the labyrinth of rocks and bushy islands, we entered a channel, a few hundred paces in width, bordered by high forests. The sky became covered with heavy thunder-clouds,—single drops fell, presently followed by a torrent of rain. We kept along the right bank of the river, turning N.W., and in less than an hour after passing the Caxoeira were enveloped in perfect darkness. Notwithstanding the continuance of the rain and wind for an hour or more, we persevered in our voyage; until at length we reached the wished-for Praya Caranari, where we stopped, in expectation of finding there a rancho. Leaping on to the sandy beach, we searched all about in the pouring rain for the promised shelter, but unluckily a few bare poles only indicated the place where it had once stood. We were therefore about to spread the sail from the 'Growler'—our sheet-anchor—over these poles, when the Padre recollected a spot, which might possibly be reached in an hour and half, where he had formerly established a "Seringera" (a place for the collection of India-rubber), with a house attached; but his men had abandoned it, and it was very probable that, after the usual custom, they might have first burned it down.

Upon consulting together, we agreed that, as we could not at all events be worse off than upon this praya, it would be better to continue our voyage to the Padre's settlement; we therefore again pushed off, although it was

so dark that we could scarcely see a hand's breadth before us. After fasting all day, completely wet through, and fatigued with climbing over the rocks at the Caxoeiras, it may easily be imagined how we longed for the flesh-pots of the Igarité, which we hoped to reach at an early hour the next day, and the thought of which haunted our imagination.

Our course lay S.W., as nearly as I could observe in the rain and darkness. We had been sitting for some time huddled up on the benches, listening to the monotonous sound of the paddles, when the barking of dogs caught our ear, and we soon after saw a light upon the right shore. Our perseverance was now rewarded; we not only found the house standing, but inhabited by Indians, who welcomed the Padre as an old acquaintance, and led us through the plain verandah into a spacious chamber. A large fire soon blazed on the ground, and the old hostess busied herself in preparing our meal, while the dry hammocks which her husband lent us were slung close to the hearth, that we might rest and warm ourselves. For more than ten days we had been without salt, and since leaving the Igarité our only light at night was that from the fires in our bivouac: today we enjoyed the comfort again of eating our farinha, as the men said, in a digestible and "Christian" form.

December 20th.—The night's rest refreshed us: had it not been for this hospitable roof, the continued rain might not improbably have caused us fever, which is frequent among strangers in these regions. While standing under the verandah of the hut, waiting till a

shower of rain had passed, we tasted for the first time some cujas full of mingáo.

The Seringera was situated on an open space at the edge of a large forest of India-rubber trees. From this spot we had an extensive view up the Xingú: at a short distance above the hut the river flows N.W. and W.N.W., and near the Seringera turns due N.W. by N., which direction it keeps till within a short distance of its junction with the Amazon*. On starting again therefore (at half-past eight o'clock A.M.) the Xingú flowed in a straight line before us, margined with forests on both shores, and scarcely a thousand paces wide. A strong shadow cast upon the tops of the trees on our left, led us to suppose that we were approaching a tributary stream; but we soon found that, as the Indians had told us, this was merely an inlet or bay, running deep into the forest. We landed soon after on the opposite shore, at two roças, lying close together, at one of which we purchased a store of flour and a duck, and at the other obtained a quantity of melancias, which were no little refreshment to us after living so long upon mandioca. I here noticed clay-slate on the banks, and rising above the surface of the river; the granite and gneiss seemed to have ceased at the last Caxoeira.

During nearly the whole morning we had seen before us on the horizon, in the middle of the stream, the tops of a group of trees, and we now recognized the little

* As we ascended the Xingú, keeping along the right bank, its course between Porto de Môz and Acajuira seemed to be N.—from thence N.N.W.—at Pombal N.W., and at Souzel N.W. $\frac{1}{2}$ N.

island of Castanhal, with two ranchos upon its slope; but to our great disappointment there was no trace of the Igarité. We looked eagerly for it, but in vain; until at length, when close to the island, we saw her mast peeping above some bushes near the shore. Our delight may be imagined, on rejoining the vessel, and reaching this point where our return voyage was to begin.

We now set to work to unload, dry our effects in the sun, arrange matters, wash and dress, and, not least of all, to — cook a dinner. A roast duck and a glass of wine furnished forth a rich feast. Meanwhile we noticed again for the first time the appearance of the flood-tide on the sandy beach; for at the season when the Xingú swells with the rains, the tide does not extend to the last Caxoeira.

The Igarité weighed anchor at four o'clock in the afternoon, just as we were taking our coffee—how we enjoyed it! This day was in fact a perfect holiday,—we hardly knew what to do with all the riches that surrounded us. We paddled on the whole night long, and the darkness prevented our observing the mouth of the Tucuruí.

December 21*st.*—Between eight and nine o'clock this morning we anchored before Souzel. The parting with our faithful companion Padre Torquato, to whom we were under such deep obligations, was attended with sincere regret, for we had all grown attached to him. It was entirely owing to him that we had been able to extend our voyage so far, and without his presence, which at once gave the Indians confidence, we

should have met with much greater difficulties; indeed unaided we should not have found it easy to satisfy the men who accompanied us from Souzel.

We waited some hours, till three o'clock P.M., for the canoes of our Jurúna friends; but at length, as they did not arrive and we were afraid of losing the ebb, we left Souzel, after taking a farewell dinner with our kind friend the Padre. Frequent showers of rain obliged us towards evening to anchor on the right shore, and the Igarité rolled so heavily that Count Oriolla felt slight qualms of sea-sickness.

December 22nd.—The rainy season had now fairly set in for some days past, and it was most fortunate that the difficult part of our voyage was accomplished; indeed we were told that, during the period when the Xingú is swollen, it is unnavigable for small vessels. The wind was contrary today; but, if I understood the Padre correctly, it generally blows at this period on the lower river from the west and north, whilst the "vento geral" is said to extend only thus high up during the rest of the year.

We stopped for a short time at Pombal*, to purchase provisions. This place consists of a few miserable houses, or huts, with palm-leaf roofs, standing on a sandy beach. Between the huts grow plantains, intermingled with palm-trees and tall shrubs. In the background rises a

* According to Spix and Martius (vol. 3, p. 1050), this place is called Piraquiri in the language of the country, and Souzel, Aricara; Veiros, which formerly stood on another spot, was named Ita-Corussá or Stone-cross, and Porto de Môz, Maturá.

thick forest,—no longer indeed the fine tall primæval forests which line the shores above the cataracts, but the lower woods that accompany the Xingú as far as Porto de Môz.

We passed Veiros about noon, with a strong head-wind, but the weather improved towards evening. I was just reading in Count Bismark's copy of "Freiligrath," of lions, tigers, and palm-trees, when we heard the sound of pipes and drums. A boat approached and passed close to us, decked with three white flags, each bearing an image of the Virgin Mary. These boats, we were told, go up and down the river, for the purpose of making collections for the approaching festival. The Christmas holidays have an additional interest to the inhabitants on the Lower Xingú, from the circumstance that at this time the "Seringeros" (that is to say nearly the whole male population,) who have been engaged in collecting India-rubber, return to their villages and families. We anchored about midnight at Acahí, a short distance from our pilot's house.

December 23rd.—We here took in various curiosities which, at our desire, Albuquerque had ordered, such as painted cujas, the large pot-shaped fruit of the Sapucaja-tree, and the fruit-capsules of the palms, which are used as saucers. All these things we took with us to Europe.

After a delay of a few hours we continued our voyage. The pilot's wife was near her confinement, but this caused her husband so little concern, that he did not even mention the circumstance to us, much less express

any wish to remain behind. The Indian women in these parts suffer so little in childbirth, that they are scarcely kept a day from their usual work; nay the Jurúna women even bathe in the stream with the new-born child immediately after the event.

Acahí, with its broad margin of caladiums, was soon left behind. This plant is much more common on the Lower Xingú than above the Caxoeiras. Towards evening we saw on the distant ocean-like horizon of the Xingú the innumerable islands in the Amazon, behind which, scarcely discernible by the eye, rose the blue outlines of the Serra de Almeirim, while on our left extended the low land of the Campos de Aquiquí. We rowed along the woods on the right shore, and did not observe Porto de Môz until we were close to the place,—so insignificant, seen from this point, appears the range of huts which stretches along the edge of the forest. The evening sun shed a golden and purple glow over the sky. As we stepped on shore, great preparations were in progress for the approaching Christmas festival.

The Commandant had kindly had an alligator caught for me, which measured ten feet in length, but unfortunately it had died of its wounds; I however found some of its remains—the strong bony plates—protruding out of the river-sand. I received another mark of attention from the schoolmaster of the place, who gave me a sketch of the town which he had made; nor must I omit to mention the sketch of the Xingú taken by Mr. Feio, a friend and the French teacher of the Padre, which he presented to me on our leaving Souzel:

these, together with several souvenirs from our good friend the Padre, I preserve with a feeling of grateful pleasure.

The stars shone brightly as we entered the Amazon. A deep silence reigned around, broken only by the melancholy song of our oarsmen, and darkness overspread the ocean-like Xingú, to which we had now bidden adieu for ever. In what a different light—how rich in recollections—did it now appear to us, after all the wonders we had witnessed, the existence of which we could scarcely have imagined when we saw that great river a few weeks ago for the first time! I took leave of it as of an old friend; nevertheless the wide ocean had now greater attractions for me, towards which our course was this night directed.

December 24th.—On entering the kingly stream, we again met the "vento geral," which now opposed our progress as much as it had before favoured our ascent of the river. We contended against it nearly the whole day, excepting only a short halt at Tapará, where I purchased the shell of an alligator, some cora-roots, and a kind of batatas. The breeze was strong, and together with the flood rocked the Igarité violently; so that we were obliged to cut poles and push the boat with difficulty along the bank of caladiums and rushes. Towards evening the head-wind abated, and the blue firmament spangled with stars—among which the Southern Cross shone brilliantly—canopied the dark waters of the Amazon, as if to add to the solemnity of the Christmas-eve. The few lights of Villarinho glimmered on the right

shore, and the island near the two huts was close at hand. The current mastered all our efforts, and the boat, no longer obeying the rudder, ran aground on a sandbank off the upper point of the island: by uniting all our force, however, we soon got her afloat again, and our Christmas celebration was interrupted only for a few minutes.

The Igarité was illuminated on this occasion, for in addition to the "fighting-lanthorn," which was hung to the roof as usual by night, we set up four lighted candles, stuck in bottles; these were of course continually blown out by the wind, but with unwearied perseverance as often re-lighted. Count Bismark furnished a delicious fritter, made of ship's biscuit, called in Germany "Arme Ritter" (poor knights),—a term not inapplicable to our present plight; while Count Oriolla made some mulled wine, in which we drank various toasts, especially to the health of our absent friends, who were yet present to us all in affectionate remembrance; we also made a kind of pudding of cora-roots. But in spite of all these delicacies our thoughts continually transported us across the Atlantic: we sang our songs, but not with the same hearty merriment as usual. Dark clouds now covered the sky, our lights were extinguished, and we sought rest.

December 25th.—The morning of Christmas-day found us toiling against wind and tide. The air was sultry, and a warm rain fell in torrents: we had however, some days before covered in the open part of the Igarité with sailcloth and tarred canvas, as a partial protection in the

wet season. This cover was tied up at intervals on the sides of the boat, so as not to incommode the men in rowing.

We reached the small bay above Gurupá at eleven o'clock A.M., and found the Brazilian man-of-war schooner 'Rio-Grandese' anchored there. Her Commander came on board the Igarité, offering, at the desire of the President of Pará, to place his vessel at my disposal: but this courteous mark of attention I was obliged to decline, as the schooner would have taken longer to reach Pará than the Igarité, being unable to beat up through the narrow channels, and still less adapted for rowing than our boat, which was itself almost too heavy for this purpose.

No vessel except steamers is, in my opinion, better fitted for this kind of navigation than large gigs, well-manned, and provided with a light but waterproof shelter from the sun. For the cataracts of the Xingú, and the river above them, canoes seem to me best adapted, as they require so little depth of water. The navigation of the Amazon by steamers has been already commenced, for shortly before our visit to Pará a small steam-vessel had arrived from North America, which was to ply between this city and the island of Marajó.

After taking on board the skin of the Boa-constrictor and some provisions, we left our anchorage. The weather had cleared up, and the sun broke through the dark clouds, as we passed under the steep bank on which Gurupá is situated. We this evening reached the spot where, a month before, our fight with the serpent had

taken place. It was a clear starlight night, and in the western sky we observed a remarkable white gleam.

December 26th.—A heavy mist rested on the river, but shortly after sunrise we recognized on the N.N.E. the wooded point near the termination of the primæval forest on the right bank, behind which the great branch called the Tagipurú leaves the Rio de Gurupá*. A second wooded tongue of land was visible at a further distance to the north: it was here that we had entered the Amazon from the Uituquára, November 29th. More to the left we saw a point, bearing N. ½ W.—probably one of the Ilhas de Gurupá marked on the map of Spix and Martius. Between the two last-named points it seemed as if the sea-horizon were visible toward the mouth of the Amazon. We soon entered the Tagipurú.

I may be allowed to subjoin a brief sketch of the information we obtained respecting the channels that connect the Amazon with the Pará, partly derived from our pilot Albuquerque, and partly from our own observation. The southern arm of the great main stream, flowing north-east and studded with islands, is sometimes called the Xingú from the embouchure of this tributary as far as Gurupá, but more frequently the Rio de Gurupá, and afterwards joins the Rio de Macapá: from this southern arm branch off two chief rivers, flowing nearly parallel south-east—the Tagipurú and the Jaburú. They empty themselves into the oft-mentioned fresh-water sea that flows along the south and east coast of the island of Marajó, called the Rio da Cidade or Pará

* See above, pages 130, 196.

river,—that is to say into its western part, known to us as the Bahia das Bocas. Beside the Limão, a short branch connecting the Tagipurú and the Uituquára, the following channels likewise unite the Tagipurú and the Jaburú: first, starting from the north, a side-channel of the Jabixava without a name; after this, the Bojassú, the Furo das Ovelhas, the Macujubi, the Furo das Velhas; and lastly the Aturiazal. From the junction of the Aturiazal with the Tagipurú the latter has the name of Furo de Melgaço, from the place toward which it flows, while the Jaburú receives the name of Rio dos Breves from the same point of junction. The Uituquára, which we had navigated November the 27-28th, commences, as we have already seen, in the same bay of the Amazon where the Tagipurú branches off; it flows parallel to the Rio de Gurupá, and enters the Jabixava just after the latter has separated from the Amazon, and immediately before it receives the Jaburú, flowing eastward from thence, and uniting further down with the Rio de Macapá. We were told that the Tagipurú receives two tributaries from the west,—the Ygarapé das Cobras (Ninho das Cobras grandes), and the Ygarapé da Lagoa. The latter is said to come from the country of the Xingú, and is navigable for small vessels. It is possible that Albuquerque confounded this Ygarapé with the Riacho da Laguna marked on the map of Von Martius, which forms a connection between the Pucuruhy (entering the Amazon near Gurupá) and the Uanapú, but is said to be partially dried up during the summer*.

* See Spix and Martius' Travels, vol. 3, page 1047.

The velocity of the current in the rivers between the Amazon and the Pará depends doubtless in a great measure on their relative fall, partly also on the tide, partly on the volume and pressure of the mass of waters in the Amazon, and lastly on the rise or fall of the important rivers that form the Pará. The circumstance that the rainy season does not occur at the same period on the Upper Amazon and near the sources of its great tributaries, causes great irregularity in the different velocities of these rivers, and it would require the observation of years to obtain a clear view of all the causes in operation.

During the time that we navigated these rivers, the Tagipurú, as before observed, flowed constantly toward the Pará,—a proof that the former river constitutes the chief outlet to the waters of the Amazon, which flow S.E. and with such force as to overpower the tide. Into the Jaburú, on the contrary, the flood-tide entered both from the north through the great mouth of the Canal de Braganza do Norte, and from the south through the Pará. The meeting of the tides in the Jaburú takes place near the junction of the Furo das Ovelhas. Is the cause of this phenomenon to be ascribed to the diversity of the ground? and may it be that the Tagipurú has a greater and more equal fall than the Jaburú? These and similar questions apply also to the Uituquára, which was constantly ebbing, like the Tagipurú, when we ascended it.

The immense pressure of that part of the muddy Amazon which flows S.E. gives an idea of the great mass of water that passes off continually through the

wide Tagipurú (navigable for large men-of-war) into the freshwater sea south of Marajó. But the opinion that the Pará is the southern outflow of the Marañon, is confirmed by the absence in this great basin both of the crystal water of the Uanapú, and the clear olive-coloured water of the gigantic Tocantins; while the muddy, clay-coloured waters of the Amazon prevail up to its confluence with the ocean.

On the right side of the mouth of the Tagipurú (here from a hundred and fifty to two hundred paces broad), which we now entered, a forest of fan-palms rose from a margin of luxuriant caladiums, while the opposite side was covered with tall forest-trees. We came up with an Igarité, similar to ours, but the rowers had fastened their round pagaies to long poles, and thus converted them into oars,—a sight which caught our attention the more, since, as we had remarked in ascending the river, the appearance of a boat is an uncommon event in these parts.

The direction of the channel is at first E.S.E., then S.E., afterwards E., E. by N., E.N.E.; and toward sunset, when we reached the point where the Limão falls into the Tagipurú, it is again E. During our voyage today, the banks of the broad stream were covered with magnificent forest-trees, intermixed with slender Assais, which gradually decreased in size. Soon after the confluence of the Limão, as darkness was setting in, we saw the second of the above-mentioned channels flowing N.N.E. toward the Jabixava. The Tagipurú now flows at first E.S.E.,—an hour afterwards for a short distance

S.E. by S.,—then E., S.S.E., and lastly S. by E. A small ygarapé, as the pilot called it (perhaps the one named above Bojassú), branched off N.E. at the spot where the main channel turned S.S.W. We soon reached a western confluent, the Ygarapé das Cobras, from whence the Tagipurú continued for an hour in a southern direction to the mouth of the Furo das Ovelhas, and flowed from thence for about two hours S.E., passing the mouth of the Macujubi. It afterwards turned S. by W., while an Ygarapé, the name of which we did not learn, kept to a straight course.

I had for some time struggled with fatigue, and more than once had actually fallen asleep, so that I give the course of the channel from the Furo das Ovelhas to the Macujubi only on the pilot's authority. The Tagipurú now flowed for a short distance S. by E., about three hundred paces broad; in fact its general width from the Amazon is about two to three hundred paces. It now unites with the Ygarapé da Lagoa, coming from the west, while the Furo das Velhas opposite to it takes a N.E. direction.

December 27th.—Day was breaking when Albuquerque steered into the Furo das Velhas, here scarcely a hundred paces broad, mistaking it for the Aturiazal. As the sun rose, and my companions awoke, the Igarité was lying under the shade of a group of fan-palms, covered with a mass of creepers, over which hung a net of the most splendid passion-flowers. Count Oriolla ingeniously proposed that we should imitate the mode of rowing adopted by the boat we had met the previous day on the

Amazon; our men were therefore dispatched into the forest to cut poles, to which we fastened the pagaies. The power of the oars was thus so much increased, that half the crew could now row faster than all the men were able to do before. Another advantage was that we could have a relay of hands, and keep the men at work day and night. The ebb-tide set in strongly toward the Jaburú in the Furo das Velhas, while the Tagipurú flowed past us with its usual velocity S. by E. We spent nearly the whole forenoon in the Furo das Velhas, having proceeded more than an hour before the pilot discovered his mistake. We did not however regret the time thus spent, for the aspect of the magnificent though low vegetation recompensed us for this labour lost; here seemed to be collected an assemblage of all kinds of palms, together with splendid flowers of various species of passion-flower and Stizolobium. As the Furo das Velhas was too shallow for the Igarité, and moreover would have been a roundabout passage, we returned to the Tagipurú, which we followed a short distance S. by E. until we reached the mouth of the Aturiazal (resembling the mouth of the Furo das Velhas), which we entered.

The Aturiazal flows N.E. by E., afterwards E. by S. as far as a bifurcation, and from thence S.E. by E., while another branch turns N.E. It then glides along, a hundred paces broad, in as straight a line as an artificial canal, between walls of fan-palms. The succeeding bearings were S.E., E.S.E., E.S.E. by E. and E.S.E. After passing a lonely plantation of rice, situated on the

left bank, we before sunset entered the Jaburú, flowing south-east, now called the Rio dos Breves, and here found the banks again covered with tall primæval forests. We stopped at eleven o'clock at night near Breves.

December 28th.—At daybreak we went on shore, to purchase some provisions and engage a pilot for our further voyage. Up to this point the passage, both for large and small vessels, going from Gurupá to Pará, is the same as that we had followed, but from Breves to Pará there are two passages: the larger craft keep to the middle of the Pará, and running through the channels near the Ilha das Onças, sail straight to the city; but smaller vessels keep close to the shore of Marajó, sheltered by numerous islets which extend along it up to the Bahia de Marajó*; they then cross the Pará, and enter the Furo do Japim (Japii), through which they pass between the islands on the west side of the mouth of the Tocantins, and reach first the Limoeiro and afterwards the Tocantins itself: they then cross this river into the Anapú, one of its confluents on the right bank, and thence proceeding by the Ygarapé-Mirim, before mentioned, reach the Rio Mojú, and finally Pará. This passage is called "pára dentro," the inner one, as distinguished from that followed by larger vessels, known by the name of "pára fora," the outer passage. Albuquerque was not acquainted with the former of these

* According to Albuquerque, the following rivers flow into the Bahia de Marajó:—the Atua, to the east of it the Jupati, the Muana, and several others.

passages, and we were unwilling to trust our safety to the mulatto Furtoso, one of our sailors, who offered to steer us: we had no alternative therefore but to look out for a pilot here in Breves. The Commandant of the place procured for us a trusty man, and we left Breves soon after sunrise; some of the ladies of the place brought me a present of eggs, for which I was duly grateful.

We toiled the whole forenoon against the sea-breeze and flood-tide, then setting in, without being able to make much progress in the Rio dos Breves, which is here about five hundred paces broad. On its banks was occasionally seen a house standing upon piles, or a roça at the edge of the forest, in the midst of fan-palms a hundred feet high. After fruitless attempts to proceed, we anchored on the right shore, near a splendid forest of palms, which gave us an opportunity of sketching. We also got our dinner here, and then, as soon as the ebb set in, continued our voyage. The Pará river lay stretched out before us, tinged with a ruddy gleam by the last rays of the sun. We kept along the island of Marajó, and a group of agile monkeys caught our attention, leaping from top to top of the low fan-palms. Continuing our course east we crossed the Bahia de Tapará, and a group of fan-palm islands soon lay between us and the river: then passing the mouth of the Rio Ajará, flowing from the interior of Marajó, we entered the small Furo de Santa Isabel, between eight and nine o'clock in the evening, along which we sailed the whole night: at first it bore E. and N.E. up to where the Furo Jupatitúro

flows into it from the N.W.: it then turns N.N.E., and after we had passed the mouth of another small Ygarapé on the right, first N. by E., then E. and N.E. by E. The Furo de Santa Isabel now seemed to flow for a long distance N., then N.E. and E. The "Cruzeiro" and the Great Bear shone brightly on the dark-blue, starry sky. The channel afterwards bears successively S., E., S.S.E., and E.N.E., until it is joined by the Rio de Mutuacá flowing westward from the interior of Marajó, when it continues its course E.

December 29th.—At daybreak the Igarité was at the point where the Furo de Santa Isabel joins the Periha, coming from Marajó, and the united rivers form a common embouchure in the direction of the Pará. We held on our course east against a contrary wind, coasting along the glorious palm-forests of Marajó, from time to time passing single islands on the right, and catching an occasional open prospect over the Pará and its southern shore in the distance. We stopped near a roça to breakfast, and then continued our voyage along the shore, crossed the bay of Coralli at sunset, and directly afterwards passed the Fazenda Maruarí, which we recognized again by its tiled roof; before midnight we anchored near the Fazenda Assuranda. Some showers of rain had fallen during the day, accompanied by an east wind.

December 30th.—At five o'clock this morning, as the stars were beginning to disappear, we weighed anchor. The sea-breeze setting in at daybreak, we hoisted sail, close-hauled, but continued also to use the paddles, and

held our course S.S.E. ½ S. straight for the Ilha da Conceição, on the southern shore of the Pará. We left Paquetá to the east, and behind it caught a glimpse of the isles of the Bahia de Marajó, and also saw the Ilha de Santa Cruz (as the pilot called the land to the right of the mouth of the Tocantins), appearing faintly to the east of Conceição and Tucumaidúba*.

Having crossed the Pará safely, we rowed at first along the Ilha da Conceição, at about a hundred paces from land, and afterwards coasted the island of Tucumaidúba, which is separated from the former by a small ygarapé With the setting-in of the flood, the viração (breeze) rose, and both together opposed our progress, causing quite a sea; we were therefore obliged to lay-to at the latter island, and I availed myself of the delay to sketch in the forest.

In the afternoon we continued our voyage along the island; on the left, in the distance, extended the low land of Marajó across the broad Pará, which was enlivened only here and there with a solitary sail. Towards evening we reached three or four charming little islands, covered with Miritĺ-palms, behind which was concealed the mouth of the Ygarapé Japim; we entered this channel, about fifty paces broad, with the flood then streaming in from the Pará, intending to continue our voyage up it as soon as the ebb of the Tocantins should set in. The Japim is at first margined by tall fan-palms, which gradually decrease in height. We afterwards passed a fazenda belonging to a priest, and the appearance of

* See above, page 174.

cocoa-nut trees and some negroes indicated our approach to the regular cultivation of the coast-region. At a short distance, on the caladiums, sat perched a flock of gulls, which we saluted with a volley, but without effect. As the channel grew gradually broader, its windings seemed to increase, and I at length gave up noting its bearings: it separated into several branches, and, if I understood aright, its name was now changed to Japii-assú and Pachecó.

December 31*st*.—After rowing the whole night long, we were at five o'clock this morning near the Fazenda do Limoeiro, and, according to the pilot, in the broad channel of the same name* which opens toward the Tocantins. We entered this gigantic river at sunrise: its clear, olive-coloured waters are divided near its embouchure into two large arms, by three flat islands, which succeed one another in a line from south to north. The most northern of these islands, called Tatoocca, bore N.E. by N.,—the middle one, Marapatá, E.N.E.,—and the southern one, Urarai (Uararahy of Spix and Martius), S. by E. A fourth island, called Pautinga, lay S.S.W. of us. Between Marapatá and Tatoocca, which are about a nautical mile apart, were seen the faint outlines of Marajó. Crossing the left arm of the river, the Bahia do Limoeiro†, out of which rose great banks of sand and mud, we steered straight toward the passage between Marapatá and Urarai.

The last day of the year 1842 was dull and rainy, as

* See Diccionario Geographico, vol. 1. page 559.

† See Spix and Martius' Travels, vol. 3. page 982.

if nature too mourned the flight of time. Monotonous in its outlines and colouring, yet grand, was the picture which the mouth of the Tocantins exhibited: as far as the eye could reach, it met only sky, water and fan-palms. The mighty stream rolls its olive-coloured waves between forests of Miritĺ-palms, while all the islands rising from its dark surface are so many forests of fan-palms. The straight trunks of the Miritĺ stand in thick, interminable rows, of a whitish-grey colour, like those of our fir trees, or of a reddish brown similar to our pines, in clumps near each other, and bearing like slender columns the flat pendent roof of numerous tangled dark-green crowns. Great as is the difference between the majestic palm and the prosaic pine, it is true that, seen from a distance, the forests of fan-palms bear a certain resemblance to our pine-forests. This was perhaps the reason that some of my companions could not admire this scenery, and got tired of it: for me, on the contrary, the peculiar gloom of the river and forest landscape had great charms.

A few hours later Marapatá and Urarai lay behind us, and we reached a solitary island in the right main branch, the Bahia de Marapatá*, less remarkable for the height of its palms, than the beauty of the arborescent large-leaved caladiums that margined its shore. As we followed the bank down the stream, our attention was drawn to a break in the forest lying N. or N.N.E. from us, where we were told the Anapú joined the Tocantins. Heavy black clouds hung over the stream; the

* See Spix and Martius' Travels, vol. 3, page 982.

flood was strong and the head-wind fresh, so that the Igarité could scarcely make any progress. At length we doubled the north point of the island, and against wind and tide steered towards an island lying more to the east, and parallel with the former. After struggling with wind and waves, our fragile Igarité reached this island safely, and we drifted towards its southern point. The forest that covered it was wonderful; fan-palms eighty feet in height, and some reaching even to a hundred feet, gave it a peculiar aspect, which was heightened by groups of graceful Assais, while the gigantic branches of the Jupati bent down in high arches toward the stream.

As we were coasting along this island (we followed its western shore for several hours) the deep solitude was suddenly interrupted by a canoe steering up the stream: a man of colour sat in the little boat, the square sail of which attracted our attention; it was made of palm-leaf mats, and seemed to me capable of being folded up, like the sails of a Chinese junk. I have never elsewhere seen such a sail.

On reaching at length the northern point of the island, late in the afternoon, we had to cross in a severe squall and rain another broad arm of the river, to an island situated on the right shore. It was a severe trial for the Igarité. Sailing along this island in a N.N.E. direction, we came to the mouth of the Anapú, previously passing a fazenda situated in a small bay. Fine cocoa-nut trees grew round about, and there seemed abundance of fruits

of all kinds, and of fowls; nor were negroes wanting. But the neighbourhood of man and the increase of cultivation did not surprize us so much as the entirely changed character of the landscape. The shady mangrove forest, with its luxuriant water-plants and wide-spreading gigantic roots striking downwards in arches towards the shallow river, showed that we had entered the regions of the swampy and muddy isles near the mouth of the Anapú.

The sun had set for the last time in the old year, and it was the new-year's eve when we entered the Anapú, this tributary of the Tocantins, here perhaps a few hundred paces broad, coming from E. by S. or E.S.E. The feast was spread, consisting of chocolate mixed with tapioca, and a pudding made of tapioca with wine and butter; nor was there a lack of punch, to welcome in the New Year in a befitting manner. At ten o'clock we celebrated with our distant friends in imagination the hour of midnight, which was then striking to them; but at twelve o'clock we commenced *our* new year in America. We remained sitting and conversing for a long time on the roof of the Igarité, looking up at the bright stars that reflected their mild light on the surface of the winding stream, here scarcely a hundred paces broad, while our sailors accompanied the stroke of the oars with their melancholy Portuguese melodies, never tired of improvising new verses. How continually, during this delightful tropical night, did our thoughts and fervent good wishes take wing across the ocean to our beloved friends so far away!

January 1*st*, 1843.—Between four and five o'clock this morning we were in the Ygarapé Mirim*, a tributary of the Anapú. The vegetation along its banks, of which we had read so much in the Travels of Von Spix and Von Martius, disappointed our expectations. Only low mangrove-bushes, interspersed with solitary palms, extend on either side. We occasionally passed fazendas with cocoa-nut trees, and roças of rice, mandioca and arapu, which yields a red dye.

It was quite early, but the sun already shone with great power, when the Freguezia de Santa Anna, with its church, tiled roofs, and white-washed houses, appéared among the capueira. The two steeples of this church were the first, and this the first civilized place, we had seen since leaving Pará. The inhabitants, of various shades of colour, and the negroes in their gala dress, were celebrating the New Year's day. Santa Anna contains from five to six hundred persons, and is considered the chief mart of commerce in these regions. Shortly after passing it we came to the canal which Dom Pedro the First caused to be made in six months, to connect the channel with the Rio Mojú: it has not the least artificial appearance, and indeed the transition from the river to the canal would not excite attention, but that the banks of the latter are a little more raised by the earth which, in digging it, has been thrown up. The flood carried us through this short canal, which is only about twenty paces wide, and so shallow as to be navigable at high-water alone, to its junction with the Mojú.

* Ygarapé-Mirim signifies the 'Small Channel.'

Here we were obliged to stop for several hours, as the flood-tide in the Mojú opposed our progress; and it was not until the strong ebb set in that we pushed the Igarité into its dark-yellow waters, which swept us rapidly along.

On entering this great river, the whole character of the vegetation changed as by magic: the most magnificent virgin forest, combining all the grandeur and charms we had ever witnessed in Brazil, clothed the shores, as if to make our parting from these scenes more painful. Colossal trunks, with light roofs of foliage,—impervious, wall-like masses of lianas, sprinkled with splendid flowers and interspersed with palms of every description, all vying in gracefulness and beauty, succeeded one another on the left bank of the river, which we now followed. And how picturesque was the grouping of these palms near the small, shady, niche-like groves,—these sanctuaries of nature, which the rays of the evening sun could scarcely penetrate,—while here and there a Passiúba, its light aerial roots surrounded by green water-plants, rose boldly and gracefully out of the river, upon a plot of land at a few paces from shore, forming a little island as if expressly to exhibit this beautiful palm on all sides! The Passiúbas seemed to be here the most frequent among the different species of palms; next came the Najá and Baccaba palms, whilst the Mirití was rarely seen.

January 2nd.—We yesterday saw only here and there a solitary house, near the edge of the forest, but in our progress down the Mojú today, especially on the right

bank, the fazendas increased in number and extent. These indicated our approach to the "Cidade." The fine estate of Colonel Bricio, the largest of these fazendas, particularly attracted our notice. Jacuarary, as it is called, lies at the embouchure of the broad Acará, a tributary falling into the Mojú on the right shore. The stately mansion is surrounded by a handsome garden, large sugar-plantations, and extensive pastures.

We stopped near the bank of the Ilha do Mojú, where we fastened the Igarité to the aerial roots of the mángroves, to await the ebb-tide. Carried rapidly along by it during the afternoon, we discovered, first near the horizon the Ilha das Onças, and later, still further to the left and far in the distance, the island of Arapiranga, while along the banks the fazendas and sugar-plantations continually increased, and the whole country seemed to form one large garden, of the finest trees, lianas, and flowers.

At five o'clock in the afternoon we saw the point of the Arsenal appearing from behind the dark forests on the right bank; and at last Pará itself—the long-desired Pará, with its towers and stately buildings. Ere long we discerned also the 'Growler' anchored in the roadstead. All was now life on board the Igarité; every hand was employed in cleaning and giving her as creditable and seamanlike an appearance as possible, which being done we dressed ourselves.

We meanwhile passed the double embouchure of the Rio Mojú and the Guamá, but with a strong wind and tide against us, and it was dark when we came alongside

the 'Growler.' "Boat ahoy!" cried the sentinel, stepping to the gangway. "Ay, ay*!" we replied, hoping to surprize the crew: but in an instant every man was at the waists, and a hearty salute of three cheers greeted us. The first Lieutenant† received me at the gangway, as Captain Buckle was at the time on shore.

Our river navigation was thus brought to an end, and our joy may be imagined as we stepped on the quarter-deck of the 'Growler', after an absence of six weeks, and were cordially welcomed by our kind acquaintances. The whole crew collected round us near the gangway, to see the curiosities we had brought, but the delight of the lads was greatest when the skin of the Boa was unrolled. Meanwhile my kind friend Captain Buckle arrived, and I passed an hour with him in his comfortable cabin, over a cup of tea, while my companions related their adventures to the officers in the gunroom.

* It is customary on board of British men-of-war to answer the challenge of the sentinel, in case an officer is in the boat, "Ay, ay!" If the Captain be in it, the name of the ship is called, but if it is the Admiral's boat, the short answer is "Flag!" If boats approach in which there are no officers, they call to the sentinel, "No, no!" that no arrangements for reception are required.

† Mr. Lodwick; this officer distinguished himself the following year when pursuing a Slaver, near the African coast, in one of the 'Growler's' boats, on which occasion he was shot through the knee. Though he recovered from this wound, he fell a victim to the climate fever ere he was made acquainted with his well-merited promotion as Commander. Numerous instances of kindness and attention which I received from him earned my sincere gratitude and will never be forgotten.

January 3rd to March 27th, 1843.—We left the roadstead of Pará on the 4th of January at daybreak, saluted by the French and Brazilian men-of-war at anchor there, and having safely passed the banks near the mouth of the Pará we steered for the ocean. Before sunset on the 6th we crossed the bar of S. Luiz de Maranhão and cast anchor before that city, which has quite a European appearance. Like Syracuse, the town extends along an elevated ridge projecting far into the bay. From the aspect of the naked, sandy heights around us, bare of forest and with merely a few low bushes, we might have fancied ourselves transported to our own country, but for the palmtrees that here and there overtopped the houses in the city, reminding us that we were but a few degrees from the equator.

We left S. Luiz on the 8th of January at noon, and the strong current, which had hitherto been contrary, having now turned in our favour, we sailed on the 13th round Cape Toira, the proper eastern point of South America, and before sunset passed Cabo S. Roque; both points having the appearance of ranges of wooded downs. On the evening of the following day we anchored in the roadstead of Pernambuco, which together with the flat Ilhas dos Coqueiros (Cocoa-nut Islands) on the south, and the charming Olinda rising on a projecting ridge to the north, with its churches and convents, forms an extensive and striking panorama.

Pernambuco in its architecture manifests to the present day its Dutch origin: it consists of three towns, connected by bridges,—namely, the port Recife, situated

at the south point of a sandy flat ground, near the foot of the heights of Olinda,—the town of Boa-vista, which borders the cocoa-nut forests of the mainland, and is the residence of the President of the province,—and the insulated town of San Antonio, lying between the other two. Recife is protected by a long reef of rocks, a kind of natural breakwater, against which the waves of the ocean dash with fury. The entrance to its small but secure harbour is near the north end of the reef, which scarcely rises above the level of the sea, but is easily recognized by its tall lighthouse and the Fort Picão or do Mar. Two other forts, do Brum and do Buráco, rise about the middle of the sandy tongue of land towards Olinda.

We remained at Pernambuco not quite twenty-four hours, and weighed anchor on the 15th of January, at two o'clock P.M., doubled Cape S. Agostinho the same evening, and reached Bahia on the 17th, after running into the immense Bahia de Todos os Santos, between the lighthouse of Cape S. Antonio (which separates the north point of the bay from the ocean, and bears on the inner side of its long ridge the second city of the empire) and the large but little elevated island Itaparica.

S. Salvadõr is built in the form of an amphitheatre upon the hill-side, which is covered with the freshest verdure and handsome trees; the finest part of the city crowns the heights, and is continued along them by the suburb of Victoria. This suburb consists of the numerous villas belonging to the consuls and merchants, and is connected with the shady "Passeio Publico," extend-

ing nearly to its precipitous southern end, at the foot of which stands the tall lighthouse upon a sandy point jutting out towards the entrance. On the opposite side of the town the high ridge gradually falls off, until it ceases altogether, near the church of "Nosso Senhor do Bom Fim," which stands on the shore of the gulf, near the margin of the forests of the mainland. From this point the separation of the shore from the sea is scarcely discernible, and the higher parts of the coast alone are elevated like islands above its level. The semicircular fort of S. Marcello or do Mar, surrounded with water, is the most remarkable of the fortifications of Bahia. A similar fort lies on the shore below Victoria, and a third on the ridge near the Passeio Publico.

I quitted the 'Growler' the following day, and went on board the 'San Michele', which had arrived from Montevideo and was awaiting me here. The Frigate weighed anchor in the afternoon of the 21st of January, and favoured by the land-breeze she set sail, after we had taken leave of our friend and faithful travelling companion Mr. Theremin, Captain Buckle and his officers, who had rendered our stay on board the 'Growler' so agreeable, and Dr. Lippold. We now bade adieu to the charming coasts of Brazil, but they did not vanish from sight until sunset. As the wind, up to the end of January, had blown uninterruptedly from E.N.E., N.E. and N.N.E., Captain d'Arcollière was obliged to keep an E.S.E. course until the 29th of January, to get a sufficient offing from the coast. This day the sun, which had been for some months, and was henceforth, to the south, appeared for a

short time to the north. At noon we were in 18° 6′ 53″ south latitude, and 29° 39′ 25″ west longitude*, consequently nearly parallel with, or a little south of, the Abrolhos, at a distance of 530 nautical miles. We now turned our course towards the northern hemisphere, and were greatly favoured by the south-east trade-wind, which set in on the 1st of February, in lat. 11° 1′ 34″ S., and long. 29° 36′ 13″ W.

We passed the Line on the 6th of February, and were at noon in lat. 0° 11′ 14″ N., and long. 28° 2′ 48″ W. On the 7th of February at noon (in lat. 2° 8′ 10″ N., and long. 28° 11′ 59″ W.) the south-east changed to the north-east trade-wind, and we saw for the last time the Southern Cross during the night of the 9th–10th (lat. 6° 2′ 44″ N., long. 31° 23′ 46″ W.). The first seaweed passed us on the 18th of February (lat. 23° 1′ 8″ N., and long. 43° 38′ 3″ W.), and we crossed the Tropic of Cancer in the afternoon of that day. The north-east trade-wind left us on February the 21st (lat. 27° 35′ 18″ N., long. 47° 0′ 34″ W.), having carried us as far west as the meridian which crosses half-way between the Great Newfoundland Bank and the Outer Bank. The seaweed accompanied us till the 26th of February (lat. 32° 21′ 54″ N., long. 31° 32′ 31″ W.). The darkness prevented our seeing Santa Maria, the southernmost of the Azores, on the 28th of February (lat. 35° 32′ 25″ N., and long. 25° 39′ 36″ W.), though we had gone out of

* These statements of latitude and longitude refer to our position at noon on each respective day. We had visited the Abrolhos on our voyage from Rio to Pará in the boats of the 'Growler.'

our course on purpose. On the 4th of March, at two o'clock P.M., we descried the parched heights of Cape Espichel, but turned our back to it, the wind and sea being against us. On the 5th we kept off the coast of Portugal for the same reason, and did not catch a sight of it the whole day; but in the morning of the 6th we made the heights of Cape Roca, the precipitous cliff at the end of the last spur of the blue Serra de Cintra, that sharply indented ridge, on one of the summits of which stands the charming Penha, the royal château.

In the foreground at the foot of this ridge extends a dark yellow plain, sloping towards the sea, which breaks against it, and bordered by the Citadel of S. Julião. There was a calm,—a light breeze only occasionally rising, first from one quarter and then from another, giving a world of trouble to the officer on watch and the crew. As the stately Frigate lay rolling on the waves, a number of fishing-boats with tall sails approached us, in one of which lay the pilot,—a tall thin man, in a yellow, oddly cut jacket, high riding-boots, and a Spanish hat. He was soon on deck and immediately set to work, as a slight breeze was just springing up.

Those who know the entrance to the Tagus will remember the large sandbanks of Cachopo do Norte and Cachopo do Sul, which impede its passage. Our pilot ran between these, but kept too far south, as will be seen. On approaching the bar, the blue heights of Cape Espichel receded gradually from view behind the rounded sand-hills on the left shore, at the foot of which on a projecting point stand the strongly fortified tower of Bugia and

the lighthouse. We already saw, upon the right bank of the Tagus, the gigantic white castle of Ajuda, and on a sandy tongue of land the tower of Belêm, while the city itself was visible in the distance on the heights sloping toward the Tagus; nay, we could even distinguish the men-of-war, and in imagination already sought our anchorage, when suddenly the sound of breakers dispelled these delightful prospects: the Frigate was in a fair way to be drifted by the strong ebb upon the Cachopo do Sul: though the wind was favourable, it was so light that all attempts to give the ship headway proved vain, and we were obliged to let go her anchor in fifteen fathoms. The long-boat was lowered and a stream-anchor with a hawser run out to get the Frigate off her dangerous position: this finished our day's work. The pilot, whose singular dress reminded us of by-gone times, was the sole cause of this delay: he felt this, and paced the whole evening gloomily up and down the dimly lighted gundeck; on the morning of the 7th he brought us safely to the roadstead. It was one o'clock P.M. when Captain d'Arcollière brought the 'San Michele' to anchor near the 'Suffrein,' in a manner to excite general admiration of himself and his crew.

My sojourn in the beautiful city of Lisbon was short, but I shall always recollect with lively gratitude the kind reception I received there. I parted with deep regret from my friends on board the 'San Michele', and as we steamed down the Tagus on board the 'Montrose' my eyes were fixed on the stately Frigate, which by the gracious kindness of his Majesty the King of Sardinia

had been placed for such a length of time at my service, and on board of which I had passed so many happy days; and even when her hull was already hidden by the S. Julião, I still gazed on her towering masts. I hastened to return home by way of England, being anxious to express in person to her Majesty Queen Victoria my deep gratitude for the many proofs of attention I had received from the British authorities, and especially from the Admiralty. I arrived safely at Berlin on the evening of the 27th of March, where I had not only the great joy of embracing my parents (for my beloved mother was then still living) but it so happened that I surprized by my arrival the different members of the Royal Family who were at that time in Berlin, and assembled at my parents' residence.

And now I take my leave of you, kind Reader, expressing only a hope that the hours you have given to the perusal of these pages may not be deemed wholly misspent.

THE END.

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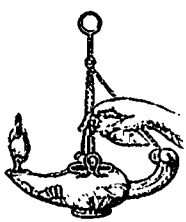

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